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DICTIONARY FILE UPDATES: 30 JUN 99 HIGHEST RN 226726-98-3

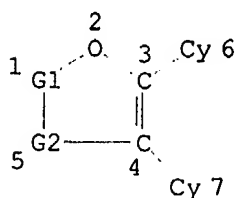
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=> d l3 que stat;fil medl,caplu,s,biosis,embase;s l3 and (chemiluminescen? or latex)

L1 STR



REP G1=(1-4) C
VAR G2=O/S/N
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE
L3 908 SEA FILE=REGISTRY SSS FUL L1

100.0% PROCESSED 84355 ITERATIONS
SEARCH TIME: 00.00.06

908 ANSWERS

COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE
ENTRY
120.90

TOTAL
SESSION
1486.38

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

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FILE 'MEDLINE' ENTERED AT 16:15:12 ON 30 JUN 1999

FILE 'CAPLUS' ENTERED AT 16:15:12 ON 30 JUN 1999

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*Considered
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WTC*

L4 0 FILE MEDLINE

L5 13 FILE CAPLUS

L6 0 FILE BIOSIS

L7 0 FILE EMBASE

TOTAL FOR ALL FILES

L8 13 L3 AND (CHEMILUMINESCEN? OR LATEX)

=> d tot all

L8 ANSWER (1) OF 13 CAPLUS COPYRIGHT 1999 ACS

AN 1997:740386 CAPLUS

DN 128:11618

TI **Chemiluminescent** compositions and their use in the detection of
hydrogen peroxide

IN Ullman, Edwin F.; Singh, Sharat

PA Behringwerke Aktiengesellschaft, Germany; Ullman, Edwin F.

SO PCT Int. Appl., 72 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G01N033-58

ICS C12Q001-28

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 1, 2, 15, 79

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9741442	A1	19971106	WO 97-US7265	19970501
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,				

SE	EP 852012	A1	19980708	EP 97-922568	19970501
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				

PRAI US 96-17075 19960501

WO 97-US7265 19970501

AB Comps., methods, and kits are disclosed for detecting hydrogen peroxide or a compd. capable of generating hydrogen peroxide, esp. in clin. chem. The comps. comprise a matrix having incorporated therein a label capable of being modified by singlet oxygen. A catalyst capable of catalyzing the

formation of singlet oxygen is bound to the matrix, which permits the diffusion of singlet oxygen therein. A sample suspected of contg. a compd. that can generate hydrogen peroxide is combined with a compn. in accordance with the present invention. The combination is subjected to conditions wherein such compd. generates hydrogen peroxide. The reaction of singlet oxygen with the label is detd., the reaction thereof indicating the presence of the compd. capable of generating hydrogen peroxide. Examples are given of the detn. of glucose, cholesterol, theophylline, chorionic gonadotropin, .

ST hydrogen peroxide detection **chemiluminescence** singlet oxygen;
biomol metabolite detn hydrogen peroxide

IT Bilayer (biological membrane)
Blood analysis
Body fluid
Chemiluminescence spectroscopy
Chemiluminescent substances
Fluorescent substances
Fluorometry
Latex
Liposomes
Test kits
Urine analysis
(**chemiluminescent** compns. for detecting hydrogen peroxide)

IT Antigens
Organic compounds, analysis
Peptides, analysis
Polynucleotides
RL: ANT (Analyte); ANST (Analytical study)
(**chemiluminescent** compns. for detecting hydrogen peroxide)

IT Alkenes, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**chemiluminescent** compns. for detecting hydrogen peroxide)

IT Antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**chemiluminescent** compns. for detecting hydrogen peroxide)

IT Enzymes, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**chemiluminescent** compns. for detecting hydrogen peroxide)

IT Immobilized antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**chemiluminescent** compns. for detecting hydrogen peroxide)

IT Tellurides
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**chemiluminescent** compns. for detecting hydrogen peroxide)

IT Alcohols, biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(**chemiluminescent** compns. for detecting hydrogen peroxide)

IT Amines, biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(**chemiluminescent** compns. for detecting hydrogen peroxide)

IT Carbohydrates, biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(**chemiluminescent** compns. for detecting hydrogen peroxide)

IT Liposomes
(multilamellar; **chemiluminescent** compns. for detecting hydrogen peroxide)

IT 50-99-7, Glucose, analysis 57-88-5, Cholesterol, analysis 58-55-9, Theophylline, analysis 7722-84-1, Hydrogen peroxide (H2O2), analysis 9002-61-3, Chorionic gonadotropin
RL: ANT (Analyte); ANST (Analytical study)

(chemiluminescent compns. for detecting hydrogen peroxide)
 IT 58-55-9D, Theophylline, galactose oxidase conjugates 6788-84-7,
 Dioxetane 9001-37-0, Glucose oxidase 9003-99-0, Peroxidase
 9013-20-1, Streptavidin 9028-76-6, Cholesterol oxidase 9028-79-9,
 Galactose oxidase 9028-79-9D, Galactose oxidase, theophylline
 conjugates
 9055-20-3, Chloroperoxidase 27980-52-5 93229-67-5, Haloperoxidase
 199116-58-0
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 7296-64-2, .beta.-D-Galactose
 RL: ARG (Analytical reagent use); BPR (Biological process); ANST
 (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 9003-99-0D, Lactoperoxidase, immobilized
 RL: ARG (Analytical reagent use); DEV (Device component use); ANST
 (Analytical study); USES (Uses)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 9003-99-0DP, Lactoperoxidase, biotinylated
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
 (Analytical study); PREP (Preparation); USES (Uses)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 7440-06-4, Platinum, analysis 128523-62-6
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 58-68-4, NADH 69-93-2, Uric acid, biological studies 92-83-1,
 Xanthene
 RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 60-24-2 66-71-7, 1,10-Phenanthroline 106-40-1, 4-Bromoaniline
 112-71-0, 1-Bromotetradecane 1074-12-0, Phenylglyoxal
 RL: RCT (Reactant)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 192937-53-4P 199116-59-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 14054-87-6DP, derivs. 14054-87-6P 192937-52-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 7782-44-7, Oxygen, uses
 RL: ARG (Analytical reagent use); FMU (Formation, unclassified); ANST
 (Analytical study); FORM (Formation, nonpreparative); USES (Uses)
 (singlet; chemiluminescent compns. for detecting hydrogen
 peroxide)

L8 ANSWER 2 OF 13 CAPLUS COPYRIGHT 1999 ACS
 AN 1997:506735 CAPLUS
 DN 127:131962
 TI Homogeneous amplification and detection of nucleic acids
 IN Ullman, Edwin F.; Liu, Yen Ping; Patel, Rajesh D.; Kurn, Nurith; Lin,
 Claire; Rose, Samuel J.
 PA Behringwerke Aktiengesellschaft, Germany; Ullman, Edwin F.
 SO PCT Int. Appl., 81 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C12Q001-68
 CC 3-1 (Biochemical Genetics)
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 9723647 A1 19970703 WO 96-US19751 19961220
 W: CA, JP
 RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,
 SE
 CA 2239683 AA 19970703 CA 96-2239683 19961220
 EP 876510 A1 19981111 EP 96-945934 19961220
 R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE
US 5914230 A 19990622 US 96-771624 19961220
 PRAI US 95-9090 19951222
 WO 96-US19751 19961220
 AB The present invention relates to a method for detecting or amplifying and
 detecting a target polynucleotide sequence. The method comprises
 providing in combination (i) a medium suspected of contg. the target
 polynucleotide sequence, (ii) all reagents required for conducting an
 amplification of the target polynucleotide sequence when amplification is
 desired, and (iii) two oligonucleotide probes capable of binding to a
 single strand of the product of the amplification. At least one of the
 probes has two sequences that either (i) are non-contiguous and bind to
 contiguous or non-contiguous sites on the single strand or (ii) can bind
 to non-contiguous sites on the single strand. Each probe may contain a
 label. The combination is subjected to conditions for amplifying the
 target polynucleotide sequence. Next, the combination is subjected to
 conditions under which both the probes hybridize to one of the strands to
 form a termol. complex, which is detected by means of the label. The
 method is illustrated by the homogeneous detection of amplification
 products of the Escherichia coli K12 DnaJ gene sequence and of the
 Mycobacterium tuberculosis (BCG) IS6110 gene sequence. The various
 probes
 include (i) **chemiluminescencer** particles incorporating the dye
 dioctadeconylbenzalacridan and having dT40 oligonucleotide immobilized on
 their surface, (ii) photosensitizer particles having chlorophyll/squarate
 incorporated and having streptavidin immobilized on their surface, and
 (iii) the synthesis of C-28 thioxene and silicon tetra-t-Bu
 phthalocyanine
 for use as photosensitizers.
 ST nucleic acid amplification detection oligonucleotide probe
 IT Insertion sequence
 RL: ANT (Analyte); ANST (Analytical study)
 (IS6110; homogeneous amplification and detection of nucleic acids)
 IT Genes (microbial)
 RL: ANT (Analyte); ANST (Analytical study)
 (dnaJ; homogeneous amplification and detection of nucleic acids)
 IT Nucleic acid amplification (method)
 Nucleic acid hybridization
 (homogeneous amplification and detection of nucleic acids)
 IT Nucleic acids
 Primers (nucleic acid)
 Probes (nucleic acid)
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (homogeneous amplification and detection of nucleic acids)
 IT **Chemiluminescent** substances
 Photochemical catalysts
 (oligonucleotide probe labels; homogeneous amplification and detection
 of nucleic acids)
 IT 193098-65-6, Dioctadeconylbenzalacridan
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (**chemiluminescent** oligonucleotide probe label; homogeneous
 amplification and detection of nucleic acids)
 IT 9013-20-1, Streptavidin
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (oligonucleotide probe label; homogeneous amplification and detection

of nucleic acids)
 IT 479-61-8, Chlorophyll a 2892-51-5D, Squaric acid, Bu ester
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (photosensitizer oligonucleotide probe label; homogeneous
 amplification
 and detection of nucleic acids)
 IT 192937-52-3P
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
 (Analytical study); PREP (Preparation); USES (Uses)
 (photosensitizer oligonucleotide probe label; homogeneous
 amplification
 and detection of nucleic acids)
 IT 106-40-1, 4-Bromoaniline 112-71-0, 1-Bromotetradecane 1074-12-0,
 Phenylglyoxal
 RL: RCT (Reactant)
 (synthesis of C-28 thioxene photosensitizer oligonucleotide probe
 label; homogeneous amplification and detection of nucleic acids)
 IT 192937-53-4P 192937-54-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis of C-28 thioxene photosensitizer oligonucleotide probe
 label; homogeneous amplification and detection of nucleic acids)
 IT 193027-49-5P
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
 (Analytical study); PREP (Preparation); USES (Uses)
 (synthesis of phthalocyanine photosensitizer oligonucleotide probe
 label; homogeneous amplification and detection of nucleic acids)
 IT 91-22-5, Quinoline, reactions 3634-67-1, Tri-hexyl chlorosilane
 10026-04-7, Silicon tetrachloride 32703-80-3, 4-tert-Butyl-1,2-
 dicyanobenzene
 RL: RCT (Reactant)
 (synthesis of phthalocyanine photosensitizer oligonucleotide probe
 label; homogeneous amplification and detection of nucleic acids)
 IT 3468-11-9P, 1,3-Diiminoisoindoline 188493-83-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis of phthalocyanine photosensitizer oligonucleotide probe
 label; homogeneous amplification and detection of nucleic acids)

L8 ANSWER 3 OF 13 CAPLUS COPYRIGHT 1999 ACS
 AN 1997:15570 CAPLUS
 DN 126:44640
 TI Metal chelate-containing compositions for use in chemiluminescent
 assays
 IN Singh, Sharat; Ullman, Edwin F.
 PA Behringwerke Ag, Germany
 SO U.S.- 23 pp. Cont.-in-part of U.S. Ser. No. 704,569.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM G01N033-543
 ICS C09K011-06; C09K011-08
 NCL 436518000
 CC 9-5 (Biochemical Methods)
 Section cross-reference(s): 2, 73
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5578498	A	19961126	US 93-156181	19931122
	US 5340716	A	19940823	US 91-718490	19910620
	CA 2069145	AA	19921123	CA 92-2069145	19920521
	NO 9202009	A	19921123	NO 92-2009	19920521
	EP 515194	A2	19921125	EP 92-304630	19920521

parent

EP 515194 A3 19931020
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, PT, SE
 AU 9217068 A1 19921126 AU 92-17068 19920521
 AU 657134 B2 19950302
 IL 101945 A1 19980208 IL 92-101945 19920521
 JP 05180773 A2 19930723 JP 92-131039 19920522
 WO 9514928 A1 19950601 WO 94-US13193 19941121
 W: CA, JP
 RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
 CA 2177143 AA 19950601 CA 94-2177143 19941121
 EP 730738 A1 19960911 EP 95-901921 19941121
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE
 JP 09505888 T2 19970610 JP 94-515126 19941121
 US 5536834 A 19960716 US 95-471131 19950606
 US 5811311 A 19980922 US 95-488228 19950607
 US 5780646 A 19980714 US 96-660029 19960606
 PRAI US 91-704569 19910522
 US 91-718490 19910620
 US 93-156181 19931122
 WO 94-US13193 19941121
 US 95-471131 19950606
 OS MARPAT 126:44640
 AB Compns. are disclosed comprising (1) a metal chelate wherein the metal is selected from the group consisting of europium, terbium, dysprosium, samarium, osmium, and ruthenium in at least a hexa coordinated state and (2) a compd. having a double bond substituted with 2 aryl groups, an O atom, and an atom selected from the group consisting of O, S, and N, wherein one of the aryl groups is electron donating with respect to the other. Such compn. is preferably incorporated in a **latex** particulate material. Methods and kits are also disclosed for detg. an analyte, e.g., T3, in a medium suspected of contg. the analyte. The methods and kits employ as one component a compn. as described above.
 ST metal chelate compn **chemiluminescence** assay; triiodothyronine detn **chemiluminescence** assay metal chelate
 IT **Chemiluminescence** spectroscopy
Latex
 (metal chelate-contg. compns. for **chemiluminescence** assays)
 IT Chelates
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (metal chelate-contg. compns. for **chemiluminescence** assays)
 IT 543-75-9, Dioxene
 RL: RCT (Reactant)
 (9; metal chelate-contg. compns. for **chemiluminescence** assays)
 IT 6893-02-3, Triiodothyronine
 RL: ANT (Analyte); ANST (Analytical study)
 (metal chelate-contg. compns. for **chemiluminescence** assays)
 IT 14054-87-6P 58041-19-3P 73260-61-4P
 156574-52-6P 157474-24-3P 185017-09-8P
 185017-10-1P 185017-11-2P 185017-12-3P
 185017-13-4P 185017-14-5P
 RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (metal chelate-contg. compns. for **chemiluminescence** assays)
 IT 7429-91-6DP, Dysprosium, chelates 7440-04-2DP, Osmium, chelates
 7440-18-8DP, Ruthenium, chelates 7440-19-9P, Samarium, preparation
 7440-27-9DP, Terbium, chelates 7440-53-1DP, Europium, chelates
 7704-34-9DP, Sulfur, compds. 7727-37-9DP, Nitrogen, compds.
 7782-44-7DP, Oxygen, compds. 185017-22-5P
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST

(Analytical study); PREP (Preparation); USES (Uses)
(metal chelate-contg. compns. for **chemiluminescence** assays)

IT 9003-53-6, Polystyrene
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(metal chelate-contg. compns. for **chemiluminescence** assays)

IT 17904-86-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(metal chelate-contg. compns. for **chemiluminescence** assays)

IT 60-24-2 66-71-7, 1,10-Phenanthroline 100-10-7, p-Dimethylaminobenzaldehyde 100-52-7, Benzaldehyde, reactions 100-61-8, N-Methylaniline, reactions 104-03-0, p-Nitrophenylacetic acid 112-31-2, Decanal 122-98-5, 2-Anilinoethanol 479-61-8, Chlorophyll a 1120-49-6, Didecylamine 2132-86-7 6317-85-7 14660-52-7, Ethyl 5-bromo valerate 33907-10-7, p-Dimethylaminobenzoin 49763-66-8, p-Octylbenzaldehyde 69358-98-1 84370-49-0, Aluminum phthalocyanine 185017-21-4
RL: RCT (Reactant)
(metal chelate-contg. compns. for **chemiluminescence** assays)

IT 146425-95-8P 185017-15-6P 185017-16-7P 185017-17-8P 185017-18-9P 185017-19-0P 185017-20-3P 185017-24-7P 185017-25-8P 185017-26-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(metal chelate-contg. compns. for **chemiluminescence** assays)

IT 185017-23-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(metal chelate-contg. compns. for **chemiluminescence** assays)

L8 ANSWER 4 OF 13 CAPLUS COPYRIGHT 1999 ACS
AN 1994:477669 CAPLUS
DN 121:77669
TI Luminescent oxygen channeling immunoassay: measurement of particle binding kinetics by **chemiluminescence**

AU Ullman, Edwin F.; Kirakossian, Hrair; Singh, Sharat; Wu, Z. Ping; Irvin, Benjamin R.; Pease, John S.; Switchenko, Arthur C.; Irvine, Jennifer D.; Dafforn, Alan; et al.

CS Res. Dep., Palo Alto, CA, 94303, USA
SO Proc. Natl. Acad. Sci. U. S. A. (1994), 91(12), 5426-30
CODEN: PNASA6; ISSN: 0027-8424

DT Journal
LA English
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 2

AB A method for monitoring formation of latex particle pairs by **chemiluminescence** is described. Mol. oxygen is excited by a photosensitizer and an antenna dye that are dissolved in one of the particles. 1.DELTA.gO2 diffuses to the second particle and initiates a high quantum yield **chemiluminescent** reaction of an olefin that is dissolved in it. The efficiency of 1.DELTA.gO2 transfer between particles is .apprxeq.3.5%. The technique permits real-time measurement of particle binding kinetics. Second-order rate consts. increase with the no. of receptor binding sites on the particles and approach diffusion control. By using antibody-coated particles, a homogeneous immunoassay capable of detecting .apprxeq.4 amol of TSH in 12 min was demonstrated. Single mols. of analyte produce particle heterodimers that are detected even when no larger aggregates are formed.

ST luminescence oxygen channeling immunoassay; **chemiluminescence**
LOCI particle binding kinetics; TSH LOCI immunoassay

IT Immunoassay
(LOCI (luminescent oxygen channeling immunoassay), particle binding kinetics detn. by **chemiluminescence** by)

IT Particles
 (binding kinetics of, **chemiluminescence** detn. of, by
 luminescent oxygen channeling immunoassay)

IT Blood analysis
 (digoxin and human TSH detn. in, by luminescent oxygen channeling
 immunoassays)

IT **Latex**
 (particles, binding kinetics of, **chemiluminescence** detn. of,
 by luminescent oxygen channeling immunoassay)

IT 20830-75-5, Digoxin
 RL: ANT (Analyte); ANST (Analytical study)
 (detn. of, by luminescent oxygen channeling immunoassay)

IT 9002-71-5, TSH
 RL: ANT (Analyte); ANST (Analytical study)
 (detn. of, of human, by luminescent oxygen channeling immunoassay)

IT 7782-44-7, Oxygen, uses
 RL: USES (Uses)
 (excitation of, by photosensitizer and antenna dye, in luminescent
 oxygen channeling immunoassay for detn. of particle binding kinetics)

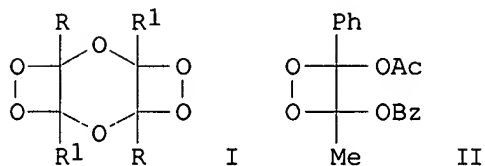
IT 156574-54-8
 RL: FORM (Formation, nonpreparative)
 (formation of, in luminescent oxygen channeling immunoassays)

IT 66-71-7, 1,10-Phenanthroline 78-50-2, Trioctylphosphine oxide
 479-61-8, Chlorophyll a 14054-87-6, Eu(TTA)₃ 71367-28-7,
 9,10-Anthracenedipropionic acid 73260-61-4 156574-52-6
 156574-53-7
 RL: ANST (Analytical study)
 (in luminescent oxygen channeling immunoassays)

IT 9003-53-6, Polystyrene
 RL: ANST (Analytical study)
 (**latex** particles, dyed with dioxenes and sensitized, for
 luminescent oxygen channeling immunoassays)

IT 37293-51-9, Aminodextran
 RL: ANST (Analytical study)
 (polystyrene **latex** particles coating with, in prepn. of
 reagent for luminescent oxygen channeling immunoassays)

L8 ANSWER (5) OF 13 CAPLUS COPYRIGHT 1999 ACS
 AN 1986:33720 CAPLUS
 DN 104:33720
 TI Synthesis, thermal stability, and **chemiluminescence** properties
 of bisdioxetanes derived from p-dioxins
 AU Adam, Waldemar; Platsch, Herbert; Schmidt, Ernst
 CS Inst. Org. Chem., Univ. Wuerzburg, Wuerzburg, D-8700, Fed. Rep. Ger.
 SO Chem. Ber. (1985), 118(11), 4385-403
 CODEN: CHBEAM; ISSN: 0009-2940
 DT Journal
 LA English
 CC 22-8 (Physical Organic Chemistry)
 GI



AB Bisdioxetanes I (R = R1 = Ph, p-tolyl, p-MeOC6H4, p-ClC6H4; R = Me, R1 = Ph) were prepd. by photosensitized singlet oxygenation of p-dioxins. Thermolysis of I gave RCO2OR1 quant. Appreciable amts. of (3R,4S)-II were detected during thermolysis of I (R = Me, R1 = Ph), and this monodioxetane had a thermal stability similar to those of I (.DELTA.G.thermod. at 298 K were 25.5 +/- 1.5 kcal mol-1). The singlet excitation yields were 0.003-0.03%, and the triplet excitation yields were 9.5-71.5%. Despite the favorable energy balance, no higher excited states of AcOBz were produced during thermolysis of I (R = Me, R1 = Ph). I decompd. by sequential cleavage of the 2 dioxetane rings.

ST hexaoxatricyclodecane prepn thermolysis **chemiluminescence**; bisdioxetane prepn thermolysis **chemiluminescence**; photochem oxidn dioxin deriv

IT Luminescence, chemi-
(in bisdioxetane thermal decompn.)

IT Kinetics of thermal decomposition
(of bisdioxetanes)

IT Elimination reaction
(of di- and tetrahydrodioxin methoxy derivs.)

IT Oxidation, photochemical
(of dioxins, bisdioxetane by)

IT Dimerization
(cyclo-, of benzoin to di- and tetrahydrodioxins)

IT 119-53-9 4254-20-0 30553-22-1 30587-18-9
RL: RCT (Reactant)
(cyclodimerization of)

IT 94686-77-8
RL: RCT (Reactant)
(elimination reaction of)

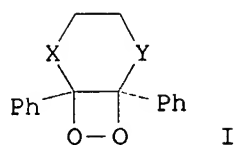
IT 119-52-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and conversion to furan deriv.)

IT 6963-24-2P 99648-32-5P 99648-33-6P
99648-34-7P 99648-35-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and photochem. oxidn. of)

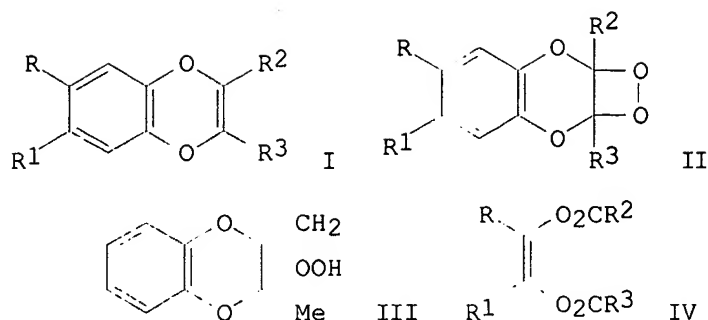
IT 99648-40-5P 99648-41-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 71650-88-9P 99648-36-9P 99648-37-0P 99648-38-1P 99648-39-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., thermolysis and **chemiluminescence** properties of)

L8 ANSWER 6 OF 13 CAPLUS COPYRIGHT 1999 ACS
AN 1985:614568 CAPLUS
DN 103:214568
TI Effects of heteroatom substituents on the properties of 1,2-dioxetanes
AU Handley, Richard S.; Stern, Alan J.; Schaap, A. Paul
CS Dep. Chem., Wayne State Univ., Detroit, MI, 48202, USA
SO Tetrahedron Lett. (1985), 26(27), 3183-6
CODEN: TELEAY; ISSN: 0040-4039
DT Journal
LA English
CC 22-8 (Physical Organic Chemistry)
GI



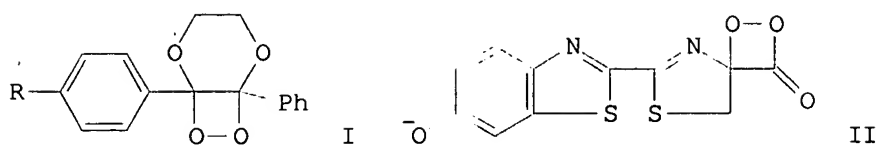
- AB Dioxetanes (I; X, Y = S, S; S, O; MeN, MeN) exhibit dramatically lower activation energies for decompn than I (X = Y = O, O). A mechanism involving intramol. electron-transfer processes is proposed for the cleavage of these unstable dioxetanes.
- ST dioxetane fused heterocycle thermolysis kinetics;
chemiluminescence heterocycle fused dioxetane
- IT Exciplexes
(of dioxetanes)
- IT Kinetics of thermal decomposition
(of nitrogen and sulfur-substituted dioxetanes)
- IT Thermal decomposition
(of nitrogen and sulfur-substituted dioxetanes, mechanism of)
- IT Luminescence, chemi-
(of nitrogen- and sulfur-substituted dioxetanes, in presence of dibromoanthracene)
- IT 67592-95-4 99217-99-9 99218-00-5 99218-01-6
RL: PRP (Properties)
(assocn. of, kinetics and mechanism of)
- IT 523-27-3
RL: PRP (Properties)
(**chemiluminescence** of dioxetanes in presence of)
- IT 60-24-2 540-63-6
RL: PRP (Properties)
(condensation of, with benzoin)
- IT 107-21-1, reactions 110-70-3
RL: RCT (Reactant)
(condensation of, with benzoin)
- IT 119-53-9
RL: RCT (Reactant)
(condensation reactions of)
- IT **4344-45-0P** 20273-71-6P **58041-19-3P** 99218-02-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and photooxygenation of)
- IT 94-49-5P 1226-99-9P 24768-61-4P 51290-80-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
- L8 ANSWER (7) OF 13 CAPLUS COPYRIGHT 1999 ACS
- AN 1984:571147 CAPLUS
- DN 101:171147
- TI Synthesis, thermal stability, and **chemiluminescence** properties of the dioxetanes derived from 1,4-dioxins
- AU Adam, Waldemar; Peters, Eva Maria; Peters, Karl; Platsch, Herbert; Schmidt, Ernst; Von Schnering, Hans Georg; Takayama, Kiyoshige
- CS Inst. Org. Chem., Univ. Wuerzburg, Wuerzburg, C-8700, Fed. Rep. Ger.
- SO J. Org. Chem. (1984), 49(21), 3920-8
CODEN: JOCEAH; ISSN: 0022-3263
- DT Journal
- LA English
- CC 28-5 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 22, 75
- GI



AB Photosensitized singlet oxygenation of benzo- and naphtho-1,4-dioxins I
 [R = R₁ = H, R₂ = R₃ = Me, Ph, R₂ = Ph, R₃ = H, Me, R₂R₃ = (CH₂)₃, (CH₂)₄; R
 = H, R₁ = MeO, R₂ = R₃ = Ph; RR₁ = CH:CHCH:CH, R₂ = R₃ = Ph] gave the
 corresponding 1,2-dioxetanes II in moderate to good yields. Peroxides,
 e.g. III, were also obtained when I had alkyl substituents,. Thermal
 decompn. of II gave the corresponding diesters IV essentially quant. The
 x-ray crystal structures of II [R = R₁ = H, R₂R₃ = (CH₂)₃, (CH₂)₄, R₂ =
 R₃ = Ph] indicate that the 4-membered rings are planar. These dioxetanes
 show similar thermal stabilities. In their **chemiluminescence**
 properties they are inefficient sources of chemienergized, electronically
 excited diester products. The singlet excitation yields range between
 0.0001 and 0.003% and the triplet excitation yields between 0.01 and
 3.5%. They represent typical dioxetanes in that preferentially triplet excited
 carbonyl products are chemienergized.
 ST dioxetobenzodioxin cleavage kinetics; **chemiluminescence**
 dioxetobenzodioxin; benzodioxin alkylation photooxygenation; conformation
 dioxetobenzodioxin; crystal structure dioxetobenzodioxin
 IT Energy level transition
 (chemiluminescence in thermal decompn. of
 dioxetobenzodioxins)
 IT Luminescence, chemi-
 (in thermal decompn. of dioxetobenzodioxins)
 IT Conformation and Conformers
 Crystal structure
 Molecular structure
 (of dioxetobenzodioxins)
 IT Oxygenation
 (photochem., of benzodioxins)
 IT Kinetics of ring cleavage
 (thermal, of dioxetobenzodioxins)
 IT Ring cleavage
 (thermal, of dioxetobenzodioxins, mechanism of)
 IT 70-11-1 106-93-4 109-64-8 110-52-1 1484-50-0
 RL: RCT (Reactant)
 (cyclocondensation of, with benzenediols)
 IT 934-00-9
 RL: RCT (Reactant)
 (cyclocondensation of, with bromoacetophenone, benzodioxin deriv. by)
 IT 92-44-4

RL: RCT (Reactant)
 (cyclocondensation of, with bromobenzyl Ph ketone, naphthodioxin
 deriv.
 by)
 IT 120-80-9, reactions
 RL: RCT (Reactant)
 (cyclocondensation of, with ketones, benzodioxins by)
 IT 91201-66-0P
 RL: FORM (Formation, nonpreparative); PREP (Preparation)
 (formation of, in photooxygenation of benzodioxin)
 IT 635-67-6P 643-94-7P 79792-93-1P 79792-94-2P 91201-67-1P
 91201-68-2P 91201-69-3P 91201-70-6P
 RL: FORM (Formation, nonpreparative); PREP (Preparation)
 (formation of, in ring cleavage of dioxetobenzodioxin deriv.)
 IT 255-37-8 4345-55-5
 RL: RCT (Reactant)
 (lithiation and alkylation of)
 IT 91201-71-7P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and crystal structure of)
 IT 5770-68-3P 91201-75-1P 91201-76-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and dehydration of)
 IT 91201-65-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and kinetics of ring cleavage of)
 IT 5770-58-1P 75694-46-1P 79792-91-9P 79792-92-0P 82912-48-9P
 82912-49-0P 91201-56-8P 91201-57-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and photooxygenation of, dioxetane deriv. by)
 IT 91201-72-8P 91201-73-9P 91201-74-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn., IR, and NMR spectra of)
 IT 91201-58-0P 91201-59-1P 91201-62-6P 91201-64-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn., chemiluminescence, and kinetics of ring cleavage of)
 IT 91201-60-4P 91201-61-5P 91201-63-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn., crystal structure, and kinetics of ring cleavage of)
 IT 82912-44-5P 82912-45-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn., lithiation, and alkylation of)

 L8 ANSWER 8 OF 13 CAPLUS COPYRIGHT 1999 ACS
 AN 1982:402531 CAPLUS
 DN 97:2531
 TI **Chemiluminescence** from a phenoxide-substituted 1,2-dioxetane: a
 model for firefly bioluminescence
 AU Schaap, A. Paul; Gagnon, Steven D.
 CS Dep. Chem., Wayne State Univ., Detroit, MI, 48202, USA
 SO J. Am. Chem. Soc. (1982), 104(12), 3504-6
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 CC 6-7 (General Biochemistry)
 Section cross-reference(s): 28
 GI



AB A study of the chem. of substituted 1,2-dioxetane (I) provided addnl. insight into the mechanisms of **chemiluminescence** and firefly bioluminescence. In particular, it was found that deprotonation of a phenolic substituent converted a stable inefficiently luminescent dioxetane into one that exhibited properties more characteristic of the bioluminescent firefly luciferin intermediate, II. Rate consts. and Arrhenius plots for the decompn. of I (R = OH) indicated that this dioxetane was quite stable and decompd. with a low singlet chemiexcitation

efficiency; modest rate enhancements by the hydroxy and methoxy substituents were consistent with a biradical mechanism for the decompn. of these dioxetanes involving rate-limiting O-O bond homolysis. Deprotonation of I (R = OH) to give the phenoxide-substituted dioxetane,

I (R = O⁻), dramatically changed the properties of I by increasing the rate of decompn. by 4.4 times. 106-fold (activation energy 13.4 kcal/mol) and significantly increasing the singlet chemiexcitation efficiency. The properties of I (R = O⁻) were typical of the biol. intermediate II of firefly luciferin.

ST deprotonation dioxetane decompn chemiluninescence; luciferin firefly model; dioxetane decompn **chemiluminescence** bioluminescence; firefly bioluminescence model dioxetane decompn

IT Luminescence, bio-

(by firefly, phenoxide-substituted dioxetane as model for)

IT Luminescence, chemi-

(of phenoxide-substituted dioxetane, luciferin bioluminescence in relation to)

IT 67227-95-6

RL: PRP (Properties)

(decompn. and **chemiluminescence** of dioxetane model of)

IT 67592-95-4 81616-87-7 81616-88-8 81616-89-9

RL: PRP (Properties)

(decompn. and **chemiluminescence** of, bioluminescence in relation to)

IT 73260-63-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and demethylation of)

IT 81616-86-6P

RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. and dioxetane synthesis from)

IT 81616-90-2P 81616-91-3P

RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)

IT 1889-84-5

RL: RCT (Reactant)

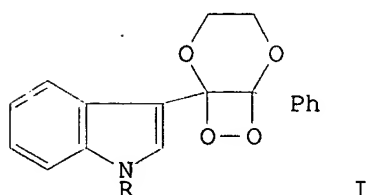
(reaction of, with ethylene glycol ditosylate)

IT 6315-52-2

RL: RCT (Reactant)

(reaction of, with methoxybenzoin)

DN 95:7116
 TI Cypridina bioluminescence. X. Synthesis and **chemiluminescence**
 of 2-(indol-3-yl)-3-phenyldihydro-1,4-dioxin 2,3-epidioxide, a dioxetane
 having unsubstituted indole group similar to the intermediate proposed in
 Cypridina bioluminescence
 AU Nakamura, Hideshi; Goto, Toshio
 CS Dep. Agric. Chem., Nagoya Univ., Nagoya, 464, Japan
 SO Heterocycles (1981), 15(2), 1119-22
 CODEN: HTCYAM; ISSN: 0385-5414
 DT Journal
 LA English
 CC 28-4 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 22
 GI



AB Of the title compd. (I, R = H) was prepd. by treating 3-(.alpha.-chlorophenylacetyl)indole with HOCH₂CH₂ONa, cyclizing 3-[.alpha.-(2-hydroxyethoxy)phenylacetyl]indole with camphorsulfonic acid, and photooxidn. of the resulting dioxene. I (R = H) had a **chemiluminescence** quantum yield of 0.48 in CH₂Cl₂ and an activation energy of 16.4 kcal/mol, making it less active than I (R = Me).

ST indolylphenyldioxin epidioxide prepn **chemiluminescence**;
 dioxetanodioxane indolylphenyl prepn **chemiluminescence**

IT Luminescence, chemi-
 (of indolylphenyldihydrodioxin epidioxide)

IT 69359-01-9
 RL: PRP (Properties)
 (**chemiluminescence** of)

IT 77929-38-5P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and **chemiluminescence** of)

IT 77929-36-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and cyclization of)

IT 77929-37-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and photooxidn. of)

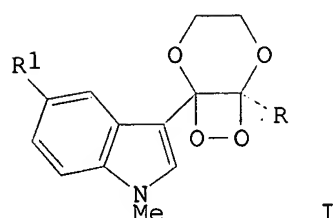
IT 77929-39-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)

IT 7388-28-5
 RL: RCT (Reactant)
 (reaction of, with chlorophenylacetylindole)

IT 42883-45-4
 RL: RCT (Reactant)
 (reaction of, with ethylene glycol)

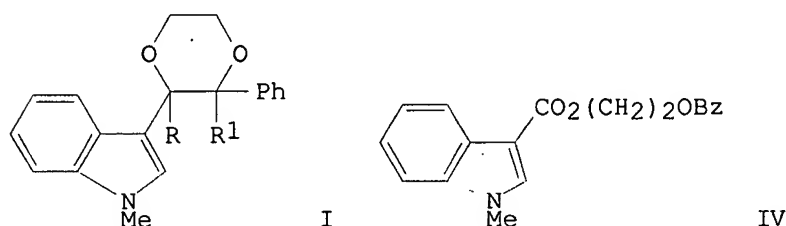
L8 ANSWER 10 OF 13 CAPLUS COPYRIGHT 1999 ACS
 AN 1980:214379 CAPLUS

DN 92:214379
 TI Studies on aminodioxetanes as a model of bioluminescence intermediates.
 1-(1-Methyl-3-indolyl)-6-phenyl-2,5,7,8-tetraoxabicyclo[4,2,0]octane, an
 aminodioxetane resulting in efficient ultraviolet and exciplex
chemiluminescence
 AU Nakamura, Hideshi; Goto, Toshio
 CS Dep. Agric. Chem., Nagoya Univ., Nagoya, 464, Japan
 SO Photochem. Photobiol. (1979), 30(1, Chemi- Bioenergized Processes), 27-33
 CODEN: PHCBAP; ISSN: 0031-8655
 DT Journal
 LA English
 CC 22-2 (Physical Organic Chemistry)
 GI



AB The title aminodioxetane (I; R = Ph, R1 = H), prepd. by photooxygenation
 of the corresponding II, is stable at -46.degree. but on warming to room
 temp. rearranged with emission of UV light (.lambda.max 320nm, equal to
 377 kJ/mol), the highest energy ever obsd. amongst efficient
chemiluminescent compds. The efficiency of
chemiluminescence and excited singlet mol. formation, in n-hexane,
 were 3.6 and .apprx.50% resp. Substitution and polar effects suggested
 the polar nature of the transition state from the chem. initiated
 electron
 exchange luminescence mechanism. In polar solvents I gave visible light
 (.lambda.max 400 nm, CH2Cl2) as well as UV, the former being quenched in
 MeOH. This is discussed in terms of an intramol. exciplex formation
 between the indole and Ph groups. This is the first example of an
 intramol. exciplex produced by dioxetane decompn.
 ST exciplex **chemiluminescence** UV aminodioxetane; dioxetane amino
 bioluminescence model; tetraoxabicyclooctane methylindolyl phenyl UV
chemiluminescence
 IT Oxidation, photochemical
 (of (methylindolyl)phenyldioxenes, Rose Bengal-sensitized,
chemiluminescence in)
 IT Luminescence, chemi-
 (of (methylindolyl)phenyltetraoxabicyclooctane)
 IT 73633-33-7 73633-34-8 73633-35-9 73633-36-0
 RL: PRP (Properties)
 (chemiluminescence of, substituent effect on)
 IT 69359-01-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and **chemiluminescence** of)
 IT 69359-02-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and fluorescence spectrum of)
 IT 69359-00-8P 70299-21-7P 70299-22-8P
 70299-23-9P 70299-24-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and photooxygenation of, Rose Bengal-sensitized,

chemiluminescence in)
 IT 73633-32-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and rearrangement of)
 IT 72632-01-0P 73633-29-1P 73633-30-4P 73633-31-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 L8 ANSWER(11) OF 13 CAPLUS COPYRIGHT 1999 ACS
 AN 1979:103018 CAPLUS
 DN 90:103018
 TI 2-(1-Methylindol-3-yl)-3-phenyldihydro-1,4-dioxin 2,3-epidioxide, a
 dioxetan resulting in efficient ultraviolet **chemiluminescence**
 AU Goto, Toshio; Nakamura, Hideshi
 CS Dep. Agric. Chem., Nagoya Univ., Nagoya, Japan
 SO J. Chem. Soc., Chem. Commun. (1978), (18), 781-2
 CODEN: JCCCAT; ISSN: 0022-4936
 DT Journal
 LA English
 CC 22-4 (Physical Organic Chemistry)
 GI



AB The title dioxetan I (RR1 = O2) (II), prep'd. by photooxygenation of I.
 (RR1 = bond) (III), gave UV light (λ_{max} 320 nm) on decompn. to indolyl
 diester IV; the efficiency of excited state mol. formation was >50%. In
 hexane, the fluorescence spectrum of IV matches the
chemiluminescence spectrum of II. The fluorescence of IV arises
 from the indole chromophore, which has $\pi-\pi^*$ character. III was
 prep'd. from 3-(α -chlorophenylacetyl)-1-methylindole by alkoxylation
 followed by cyclization.
 ST UV **chemiluminescence** indolyldioxin dioxetane; photochem
 oxygenation indolylphenyldioxin; fluorescence benzoyloxyethyl
 indolecarboxylate
 IT Luminescence, chemi-
 (of (methylindolyl)phenyldihydrodioxin dioxetane)
 IT Fluorescence
 (of benzoyloxyethyl methylindolecarboxylate)
 IT 69358-98-1
 RL: RCT (Reactant)
 (alkoxylation of)
 IT 69359-01-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and **chemiluminescence** of)
 IT 69358-99-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and cyclization of, acid-catalyzed)
 IT 69359-02-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and fluorescence of)

IT 69359-00-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and photooxygenation of)

L8 ANSWER 12 OF 13 CAPLUS COPYRIGHT 1999 ACS
 AN 1979:67574 CAPLUS
 DN 90:67574
 TI Growth regulators as a factor in growth management of apple trees
 AU Edgerton, L. J.
 CS Dep. Pomol., Cornell Univ., Ithaca, N. Y., USA
 SO Proc. Plant Growth Regul. Work. Group (1978), 5, 188-94
 CODEN: PPGGDH; ISSN: 0149-7685
 DT Journal
 LA English
 CC 5-3 (Agrochemicals)
 AB Promalin (gibberellic acid-gibberellin A7-BA mixt.) [53663-71-1] was
 more effective than gibberellic acid-gibberellin A7 mixt. [69090-50-2] or BA
 [1214-39-7] in stimulating bud break, when applied to dormant apple
 twigs.
 The compds. were applied in latex. BA, formulated in DMSO and
 Tween 20 was effective in forcing resting axillary buds into growth on
 leafy shoots. P293-daminozide-ethephon-promalin mixt. [69090-49-9]
 enhanced lateral shoot formation more than did the components applied
 by themselves. NAA [86-87-3], and to a lesser degree 6-methylpurine
 [2004-03-7] suppressed undesired vegetative bud growth.

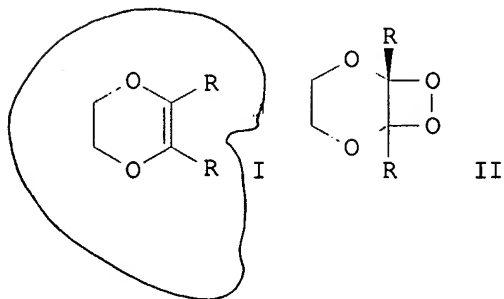
ST apple plant growth regulator
 IT Plant hormones and regulators
 RL: BIOL (Biological study)
 (apple budding and shoot formation regulation by)

IT Apple
 (budding and shoot formation by, plant growth regulators effect on)

IT 86-87-3 1214-39-7 1596-84-5 2004-03-7 53663-71-1
 69090-49-9 69090-50-2
 RL: BIOL (Biological study)
 (apple budding and shoot formation regulation by)

L8 ANSWER 13 OF 13 CAPLUS COPYRIGHT 1999 ACS
 AN 1978:151743 CAPLUS
 DN 88:151743
 TI Enhanced chemiluminescence from the silica gel catalyzed
 decomposition of a 1,2-dioxetane

AU Zaklika, K. A.; Burns, Paul A.; Schaap, A. Paul
 CS Dep. Chem., Wayne State Univ., Detroit, Mich., USA
 SO J. Am. Chem. Soc. (1978), 100(1), 318-20
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 CC 22-5 (Physical Organic Chemistry)
 GI



AB 102 reacts with I (R = 2-anthryl) to give the corresponding cryst. II. Thermolysis of II in o-xylene results in quant. formation of the corresponding (RCO₂)₂CH₂ (III) and is accompanied by light emission. The **chemiluminescence** efficiency for the formation of singlet excited III is 0.2% at 84.1.degree.. Addn. of SiO₂ to II in o-xylene at 84.1.degree. catalyzes the decompn. of II and increases the singlet **chemiluminescence** efficiency to 12%.

ST thermal rearrangement dioxetane **chemiluminescence**; ring cleavage dioxetane **chemiluminescence**; addn oxygen singlet dioxene; photoaddn oxygen singlet dioxene; silica catalyzed **chemiluminescence** tetraoxabicyclooctane; autoxidn dioxene photochem; anthryltetraoxabicyclooctane **chemiluminescence** rearrangement; cleavage ring anthryltetraoxabicyclooctane **chemiluminescence**

IT Silica gel, uses and miscellaneous
RL: PRP (Properties)
(effect of, on **chemiluminescence** and thermal rearrangement of dianthryltetraoxabicyclo[4.2.0]octane)

IT Luminescence, chemi-
(in thermal rearrangement of dianthryltetraoxabicyclo[4.2.0]octane, effect of silica on)

IT Rearrangement
Ring cleavage
(of dianthryltetraoxabicyclo[4.2.0]octane, **chemiluminescence** in relation to mechanism of thermal)

IT Kinetics of rearrangement
Kinetics of ring cleavage
(of dianthryltetraoxabicyclo[4.2.0]octane, effect of silica gel on)

IT Fluorescence
(of ethylene glycol anthranlyic acid ester)

IT Catalysts and Catalysis
(silica gel, for **chemiluminescence** of dianthryltetraoxabicyclo[4.2.0]octane)

IT Rearrangement catalysts
Ring cleavage catalysts
(silica gel, for dianthryltetraoxabicyclo[4.2.0]octane, **chemiluminescence** with)

IT Energy level transition
(intersystem crossing, in thermal rearrangement of dianthryltetraoxabicyclo[4.2.0]octane, effect of silica gel on)

IT Oxidation, aut-
(photochem., of dianthryldioxene)

IT 66177-12-6
RL: PRP (Properties)
(polymer-bound Rose Bengal-sensitized photoaddn. of singlet oxygen with)

IT 66208-91-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and thermal decompn. of, **chemiluminescence** and effect of silica gel on)

IT 61549-17-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 7782-44-7, reactions
RL: RCT (Reactant)
(reaction of singlet, with dianthryldioxene, effect of silica gel on **chemiluminescence** from)

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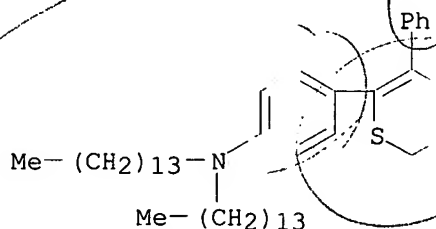
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(192937-52-3/RN)
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(58041-19-3/RN)
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1 185017-11-2/BI
(185017-11-2/RN)
1 185017-12-3/BI
(185017-12-3/RN)
1 185017-13-4/BI
(185017-13-4/RN)
1 185017-14-5/BI
(185017-14-5/RN)
1 4344-45-0/BI
(4344-45-0/RN)
1 66177-12-6/BI
(66177-12-6/RN)
1 69090-49-9/BI
(69090-49-9/RN)
1 6963-24-2/BI

(6963-24-2/RN)
 1 70299-22-8/BI
 (70299-22-8/RN)
 1 70299-23-9/BI
 (70299-23-9/RN)
 1 70299-24-0/BI
 (70299-24-0/RN)
 1 73260-63-6/BI
 (73260-63-6/RN)
 1 75694-46-1/BI
 (75694-46-1/RN)
 1 77929-37-4/BI
 (77929-37-4/RN)
 1 81616-86-6/BI
 (81616-86-6/RN)
 1 91201-56-8/BI
 (91201-56-8/RN)
 1 91201-57-9/BI
 (91201-57-9/RN)
 1 99648-32-5/BI
 (99648-32-5/RN)
 1 99648-33-6/BI
 (99648-33-6/RN)
 1 99648-34-7/BI
 (99648-34-7/RN)
 L9 27 (156574-52-6/BI OR 192937-52-3/BI OR 58041-19-3/BI OR
 69359-00-8
 /BI OR 73260-61-4/BI OR 185017-09-8/BI OR 185017-10-1/BI OR
 185017-11-2/BI OR 185017-12-3/BI OR 185017-13-4/BI OR
 185017-14-
 5/BI OR 4344-45-0/BI OR 66177-12-6/BI OR 69090-49-9/BI OR
 6963-2
 4-2/BI OR 70299-22-8/BI OR 70299-23-9/BI OR 70299-24-0/BI OR
 73260-63-6/BI OR 75694-46-1/BI OR 77929-37-4/BI OR
 81616-86-6/BI
 OR 91201-56-8/BI OR 91201-57-9/BI OR 99648-32-5/BI OR
 99648-33-
 6/BI OR 99648-34-7/BI)

=> d 1-27 ide can

L9 ANSWER 1 OF 27 REGISTRY COPYRIGHT 1999 ACS
 RN 192937-52-3 REGISTRY
 CN Benzenamine, 4-(5,6-dihydro-2-phenyl-1,4-oxathiin-3-yl)-N,N-ditetradecyl-
 (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C44 H71 N O S
 SR CA
 LC STN Files: CA, CAPLUS, TOXLIT

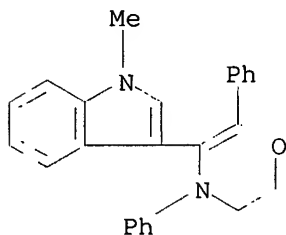


2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:11618

REFERENCE 2: 127:131962

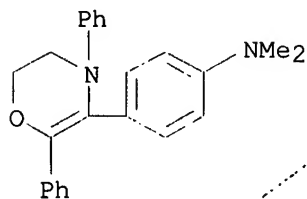
L9 ANSWER 2 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 185017-14-5 REGISTRY
CN 1H-Indole, 3-(3,4-dihydro-4,6-diphenyl-2H-1,4-oxazin-5-yl)-1-methyl-
(9CI)
(CA INDEX NAME)
FS 3D CONCORD
MF C25 H22 N2 O
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640

L9 ANSWER 3 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 185017-13-4 REGISTRY
CN Benzenamine,
4-(3,4-dihydro-4,6-diphenyl-2H-1,4-oxazin-5-yl)-N,N-dimethyl-
(9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C24 H24 N2 O
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

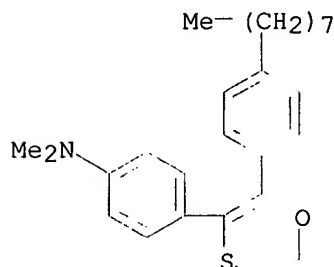


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640

L9 ANSWER 4 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 185017-12-3 REGISTRY

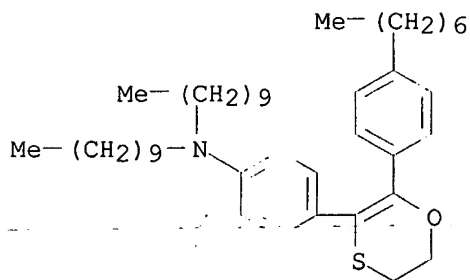
CN Benzenamine, 4-[5,6-dihydro-2-(4-octylphenyl)-1,4-oxathiin-3-yl]-N,N-dimethyl- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C26 H35 N O S
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640

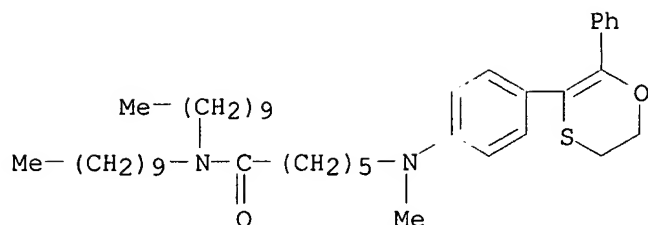
L9 ANSWER 5 OF 27 REGISTRY COPYRIGHT 1999 ACS
 RN 185017-11-2 REGISTRY
 CN Benzenamine,
 N,N-didecyl-4-[2-(4-heptylphenyl)-5,6-dihydro-1,4-oxathiin-3-yl]- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C43 H69 N O S
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640

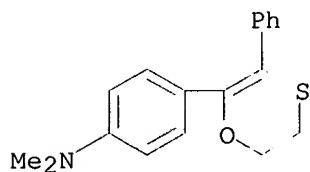
L9 ANSWER 6 OF 27 REGISTRY COPYRIGHT 1999 ACS
 RN 185017-10-1 REGISTRY
 CN Hexanamide, N,N-didecyl-6-[[4-(5,6-dihydro-2-phenyl-1,4-oxathiin-3-yl)phenyl]methylamino]- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C43 H68 N2 O2 S
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640

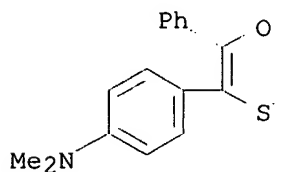
L9 ANSWER 7 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 185017-09-8 REGISTRY
CN Benzenamine, 4-(5,6-dihydro-3-phenyl-1,4-oxathiazin-2-yl)-N,N-dimethyl-
(9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C18 H19 N O S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640

L9 ANSWER 8 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 156574-52-6 REGISTRY
CN Benzenamine, 4-(5,6-dihydro-2-phenyl-1,4-oxathiazin-3-yl)-N,N-dimethyl-
(9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1,4-Oxathiazin, benzenamine deriv.
FS 3D CONCORD
MF C18 H19 N O S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



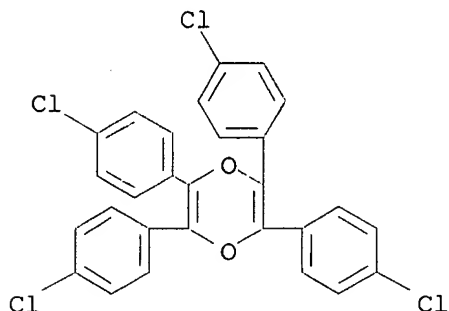
2 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640

REFERENCE 2: 121:77669

L9 ANSWER 9 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN **99648-34-7** REGISTRY
CN 1,4-Dioxin, 2,3,5,6-tetrakis(4-chlorophenyl)- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C28 H16 Cl4 O2
SR CA
LC STN Files: CA, CAPLUS

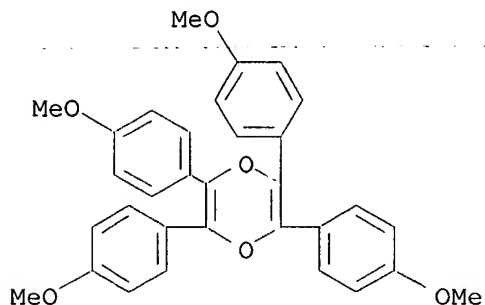


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 104:33720

L9 ANSWER 10 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN **99648-33-6** REGISTRY
CN 1,4-Dioxin, 2,3,5,6-tetrakis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C32 H28 O6
SR CA
LC STN Files: CA, CAPLUS



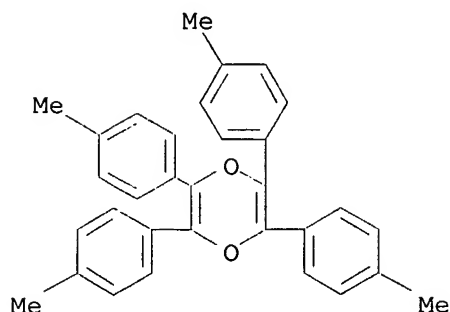
1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 104:33720

L9 ANSWER 11 OF 27 REGISTRY COPYRIGHT 1999 ACS

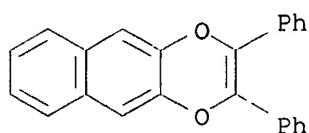
RN 99648-32-5 REGISTRY
 CN 1,4-Dioxin, 2,3,5,6-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C32 H28 O2
 SR CA
 LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 104:33720

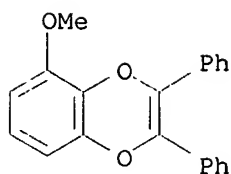
L9 ANSWER (12) OF 27 REGISTRY COPYRIGHT 1999 ACS
 RN 91201-57-9 REGISTRY
 CN Naphtho[2,3-b]-1,4-dioxin, 2,3-diphenyl- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C24 H16 O2
 LC STN Files: BEILSTEIN*, CA, CAPLUS, SPECINFO
 (*File contains numerically searchable property data)



1 REFERENCES IN FILE CA (1967 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 101:171147

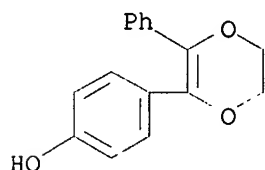
L9 ANSWER (13) OF 27 REGISTRY COPYRIGHT 1999 ACS
 RN 91201-56-8 REGISTRY
 CN 1,4-Benzodioxin, 5-methoxy-2,3-diphenyl- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C21 H16 O3
 LC STN Files: BEILSTEIN*, CA, CAPLUS, SPECINFO
 (*File contains numerically searchable property data)



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 101:171147

L9 ANSWER 14 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 81616-86-6 REGISTRY
CN Phenol, 4-(5,6-dihydro-3-phenyl-1,4-dioxin-2-yl)- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C16 H14 O3
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

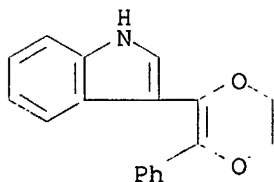


2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 97:215215

REFERENCE 2: 97:2531

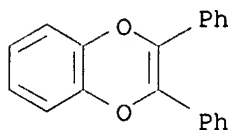
L9 ANSWER 15 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 77929-37-4 REGISTRY
CN 1H-Indole, 3-(5,6-dihydro-3-phenyl-1,4-dioxin-2-yl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1,4-Dioxin, 1H-indole deriv.
FS 3D CONCORD
MF C18 H15 N O2
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 95:7116

L9 ANSWER 16 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 75694-46-1 REGISTRY
CN 1,4-Benzodioxin, 2,3-diphenyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2,3-Diphenyl-1,4-benzodioxin
FS 3D CONCORD
MF C20 H14 O2
LC STN Files: BEILSTEIN*, CA, CAPLUS, SPECINFO
(*File contains numerically searchable property data)



6 REFERENCES IN FILE CA (1967 TO DATE)
6 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:24733

REFERENCE 2: 129:260287

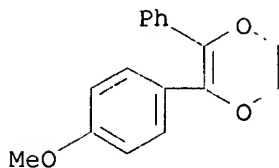
REFERENCE 3: 116:82981

REFERENCE 4: 101:171147

REFERENCE 5: 96:34311

REFERENCE 6: 93:238052

L9 ANSWER 17 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 73260-63-6 REGISTRY
CN 1,4-Dioxin, 2,3-dihydro-5-(4-methoxyphenyl)-6-phenyl- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C17 H16 O3
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:294589

REFERENCE 2: 97:215215

REFERENCE 3: 97:2531

REFERENCE 4: 92:146120

L9 ANSWER 18 OF 27 REGISTRY COPYRIGHT 1999 ACS

RN 73260-61-4 REGISTRY

CN Benzenamine, 4-(5,6-dihydro-3-phenyl-1,4-dioxin-2-yl)-N,N-dimethyl- (9CI)
(CA INDEX NAME)

OTHER CA INDEX NAMES:

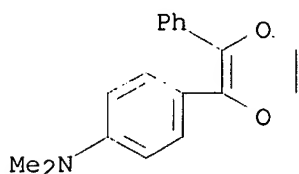
CN 1,4-Dioxin, benzenamine deriv.

FS 3D CONCORD

MF C18 H19 N O2

LC STN Files: BEILSTEIN*, CA, CAPLUS, USPATFULL

(*File contains numerically searchable property data)



3 REFERENCES IN FILE CA (1967 TO DATE)

3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640

REFERENCE 2: 121:77669

REFERENCE 3: 92:146120

L9 ANSWER 19 OF 27 REGISTRY COPYRIGHT 1999 ACS

RN 70299-24-0 REGISTRY

CN 1H-Indole, 3-(5,6-dihydro-3-phenyl-1,4-dioxin-2-yl)-5-methoxy-1-methyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

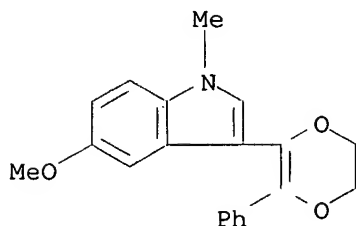
CN 1,4-Dioxin, 1H-indole deriv.

FS 3D CONCORD

MF C20 H19 N O3

LC STN Files: BEILSTEIN*, CA, CAPLUS

(*File contains numerically searchable property data)



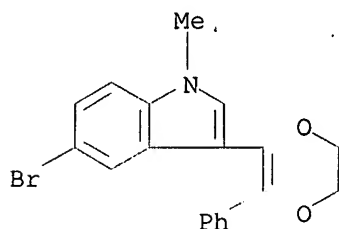
2 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 92:214379

REFERENCE 2: 90:203985

L9 ANSWER (20) OF 27 REGISTRY COPYRIGHT 1999 ACS
 RN 70299-23-9 REGISTRY
 CN 1H-Indole, 5-bromo-3-(5,6-dihydro-3-phenyl-1,4-dioxin-2-yl)-1-methyl-
 (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 1,4-Dioxin, 1H-indole deriv.
 FS 3D CONCORD
 MF C19 H16 Br N O2
 LC STN Files: BEILSTEIN*, CA, CAPLUS
 (*File contains numerically searchable property data)

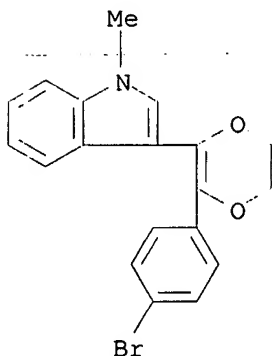


2 REFERENCES IN FILE CA (1967 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 92:214379

REFERENCE 2: 90:203985

L9 ANSWER (21) OF 27 REGISTRY COPYRIGHT 1999 ACS
 RN 70299-22-8 REGISTRY
 CN 1H-Indole, 3-[3-(4-bromophenyl)-5,6-dihydro-1,4-dioxin-2-yl]-1-methyl-
 (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 1,4-Dioxin, 1H-indole deriv.
 FS 3D CONCORD
 MF C19 H16 Br N O2
 LC STN Files: BEILSTEIN*, CA, CAPLUS
 (*File contains numerically searchable property data)



2 REFERENCES IN FILE CA (1967 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

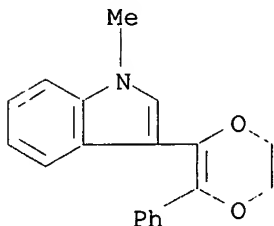
REFERENCE 1: 92:214379

REFERENCE 2: 90:203985

L9 ANSWER 22 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 69359-00-8 REGISTRY
CN 1H-Indole, 3-(5,6-dihydro-3-phenyl-1,4-dioxin-2-yl)-1-methyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1,4-Dioxin, 1H-indole deriv.
FS 3D CONCORD
MF C19 H17 N O2
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 92:214379

REFERENCE 2: 90:203985

REFERENCE 3: 90:103018

L9 ANSWER 23 OF 27 REGISTRY COPYRIGHT 1999 ACS
RN 69090-49-9 REGISTRY
CN Gibba-3,4a-diene-1,10-dicarboxylic acid, 2,7-dihydroxy-1-methyl-8-methylene-, (1.alpha.,2.beta.,10.beta.)-, mixt. with butanedioic acid mono(2,2-dimethylhydrazide), (2-chloroethyl)phosphonic acid, 2,3-dihydro-5,6-diphenyl-1,4-oxathiin, (1.alpha.,2.beta.,4a.alpha.,4b.beta.,10.beta.)-2,4a-dihydroxy-1-methyl-8-methylenegibb-3-ene-1,10-dicarboxylic acid 1,4a-lactone and N-(phenylmethyl)-1H-purin-6-amine (9CI).

--- (CA INDEX NAME)

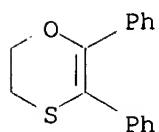
OTHER CA INDEX NAMES:

CN 1,4-Oxathiin, 2,3-dihydro-5,6-diphenyl-, mixt. contg. (9CI)
CN 1H-7,9a-Methanobenz[a]azulene, gibba-3,4a-diene-1,10-dicarboxylic acid deriv.
CN 1H-Purin-6-amine, N-(phenylmethyl)-, mixt. contg. (9CI)
CN 4a,1-(Epoxyethano)-7,9a-methanobenz[a]azulene, gibb-3-ene-1,10-dicarboxylic acid deriv.
CN Butanedioic acid, mono(2,2-dimethylhydrazide), mixt. contg. (9CI)
CN Gibb-3-ene-1,10-dicarboxylic acid, 2,4a-dihydroxy-1-methyl-8-methylene-, 1,4a-lactone, (1.alpha.,2.beta.,4a.alpha.,4b.beta.,10.beta.)-, mixt. contg. (9CI)
CN Phosphonic acid, (2-chloroethyl)-, mixt. contg. (9CI)
OTHER NAMES:
CN P293-daminozide-ethephon-Promalin mixt.
FS STEREOSEARCH
MF C19 H22 O6 . C19 H22 O5 . C16 H14 O S . C12 H11 N5 . C6 H12 N2 O3 . C2 H6

Cl O3 P
CI MXS
LC STN Files: CA, CAPLUS, TOXLIT

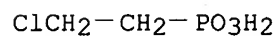
CM 1

CRN 58041-19-3
CMF C16 H14 O S



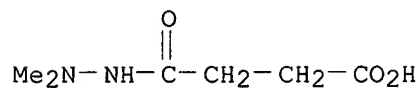
CM 2

CRN 16672-87-0
CMF C2 H6 Cl O3 P



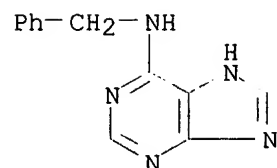
CM 3

CRN 1596-84-5
CMF C6 H12 N2 O3



CM 4

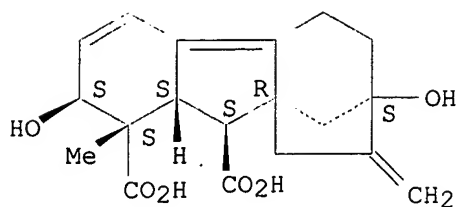
CRN 1214-39-7
CMF C12 H11 N5



CM 5

CRN 546-09-8
CMF C19 H22 O6

Absolute stereochemistry.

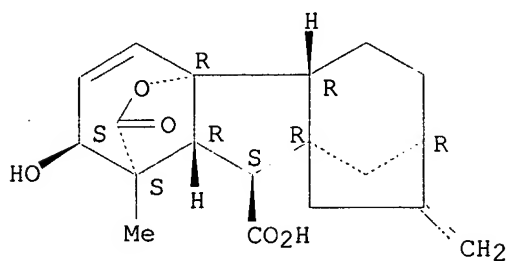


CM 6

CRN 510-75-8

CMF C19 H22 O5

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 90:67574

L9 ANSWER 24 OF 27 REGISTRY COPYRIGHT 1999 ACS

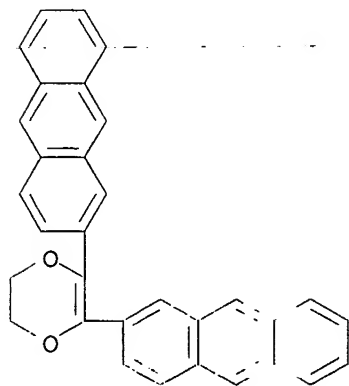
RN 66177-12-6 REGISTRY

CN 1,4-Dioxin, 2,3-di-2-anthracenyl-5,6-dihydro- (9CI) (CA INDEX NAME)

FS 3D CONCORD

MF C32 H22 O2

LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 88:151743

L9 ANSWER (25) OF 27 REGISTRY COPYRIGHT 1999 ACS

RN 58041-19-3 REGISTRY

CN 1,4-Oxathiin, 2,3-dihydro-5,6-diphenyl- (6CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN 2,3-Dihydro-5,6-diphenyl-1,4-oxathiin

CN P 293

CN UBI-P 293

CN UNI-P 293

CN Uniroyal P 293

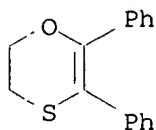
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MF C16 H14 O S

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(*File contains numerically searchable property data)



42 REFERENCES IN FILE CA (1967 TO DATE)

42 REFERENCES IN FILE CAPLUS (1967 TO DATE)

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 126:44640

REFERENCE 2: 124:231956

REFERENCE 3: 114:6399

REFERENCE 4: 111:227146

REFERENCE 5: 106:175612

REFERENCE 6: 104:207216

REFERENCE 7: 103:214568

REFERENCE 8: 100:98228

REFERENCE 9: 100:46910

REFERENCE 10: 100:19173

L9 ANSWER (26) OF 27 REGISTRY COPYRIGHT 1999 ACS

RN 6963-24-2 REGISTRY

CN 1,4-Dioxin, 2,3,5,6-tetraphenyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN p-Dioxin, 2,3,5,6-tetraphenyl- (8CI)

CN p-Dioxin, tetraphenyl- (6CI, 7CI)

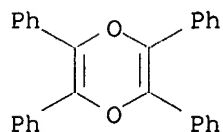
OTHER NAMES:

CN 2,3,5,6-Tetraphenyl-1,4-dioxin

FS 3D CONCORD

MF C28 H20 O2

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CSCHEM
(*File contains numerically searchable property data)



18 REFERENCES IN FILE CA (1967 TO DATE)
18 REFERENCES IN FILE CAPLUS (1967 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 114:121649
REFERENCE 2: 110:94360
REFERENCE 3: 109:109706
REFERENCE 4: 108:150387
REFERENCE 5: 108:93853
REFERENCE 6: 105:42728
REFERENCE 7: 104:196787
REFERENCE 8: 104:33720
REFERENCE 9: 103:22529
REFERENCE 10: 95:15078

L9 ANSWER (27) OF 27 REGISTRY COPYRIGHT 1999 ACS

RN 4344-45-0 REGISTRY

CN 1,4-Dioxin, 2,3-dihydro-5,6-diphenyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN p-Dioxin, 2,3-dihydro-5,6-diphenyl- (6CI, 7CI, 8CI)

OTHER NAMES:

CN 1,2-Diphenyl-p-dioxene

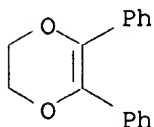
CN 2,3-Diphenyl-p-dioxene

FS 3D CONCORD

MF C16 H14 O2

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMINFORMRX,
USPATFULL

(*File contains numerically searchable property data)

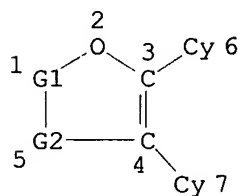


44 REFERENCES IN FILE CA (1967 TO DATE)
44 REFERENCES IN FILE CAPLUS (1967 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 130:88032
 REFERENCE 2: 128:294589
 REFERENCE 3: 126:225334
 REFERENCE 4: 125:327904
 REFERENCE 5: 124:101606
 REFERENCE 6: 120:18884
 REFERENCE 7: 116:82981
 REFERENCE 8: 115:158336
 REFERENCE 9: 112:35016
 REFERENCE 10: 112:6877

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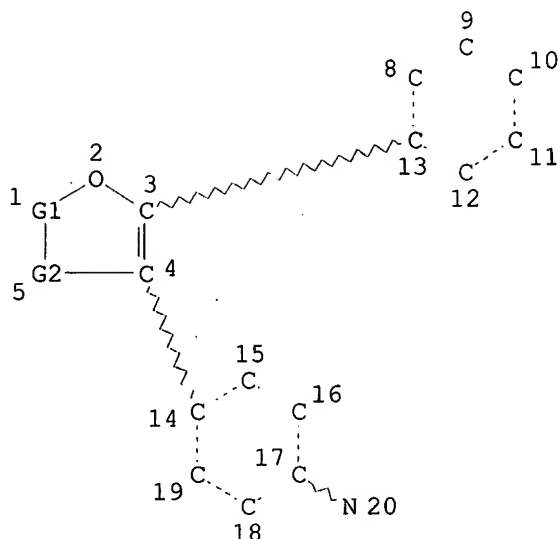


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 DEFAULT ECLEVEL IS LIMITED

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STEREO ATTRIBUTES: NONE

L3 908 SEA FILE=REGISTRY SSS FUL L1
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 VAR G2=O/S/N
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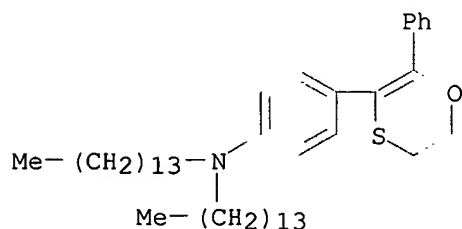
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13 ANSWERS

L11 ANSWER 1 OF 13 REGISTRY COPYRIGHT 1999 ACS
 RN 192937-52-3 REGISTRY
 CN Benzenamine, 4-(5,6-dihydro-2-phenyl-1,4-oxathiin-3-yl)-N,N-ditetradecyl-
 (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C44 H71 N O S
 SR CA
 LC STN Files: CA, CAPLUS, TOXLIT



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:11618 Chemiluminescent compositions and their use in the detection of hydrogen peroxide. Ullman, Edwin F.; Singh, Sharat (Behringwerke Aktiengesellschaft, Germany; Ullman, Edwin F.). PCT Int. Appl. WO 9741442 A1 19971106, 72 pp. DESIGNATED STATES: W: CA, JP; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 97-US7265 19970501.

PRIORITY:

US 96-17075 19960501.

AB Compns., methods, and kits are disclosed for detecting hydrogen peroxide or a compd. capable of generating hydrogen peroxide, esp. in clin. chem. The compns. comprise a matrix having incorporated therein a label capable of being modified by singlet oxygen. A catalyst capable of catalyzing

the

formation of singlet oxygen is bound to the matrix, which permits the diffusion of singlet oxygen therein. A sample suspected of contg. a compd. that can generate hydrogen peroxide is combined with a compn. in accordance with the present invention. The combination is subjected to conditions wherein such compd. generates hydrogen peroxide. The reaction of singlet oxygen with the label is detd., the reaction thereof

indicating

the presence of the compd. capable of generating hydrogen peroxide.

Examples are given of the detn. of glucose, cholesterol, theophylline, chorionic gonadotropin, .

REFERENCE 2: 127:131962 Homogeneous amplification and detection of nucleic acids. Ullman, Edwin F.; Liu, Yen Ping; Patel, Rajesh D.; Kurn, Nurith; Lin, Claire; Rose, Samuel J. (Behringwerke Aktiengesellschaft, Germany; Ullman, Edwin F.). PCT Int. Appl. WO 9723647 A1 19970703, 81 pp. DESIGNATED STATES: W: CA, JP; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB,

GR,

IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 96-US19751 19961220. PRIORITY: US 95-9090 19951222.

AB The present invention relates to a method for detecting or amplifying and detecting a target polynucleotide sequence. The method comprises providing in combination (i) a medium suspected of contg. the target polynucleotide sequence, (ii) all reagents required for conducting an amplification of the target polynucleotide sequence when amplification is desired, and (iii) two oligonucleotide probes capable of binding to a single strand of the product of the amplification. At least one of the probes has two sequences that either (i) are non-contiguous and bind to contiguous or non-contiguous sites on the single strand or (ii) can bind to non-contiguous sites on the single strand. Each probe may contain a label. The combination is subjected to conditions for amplifying the target polynucleotide sequence. Next, the combination is subjected to conditions under which both the probes hybridize to one of the strands to form a termol. complex, which is detected by means of the label. The method is illustrated by the homogeneous detection of amplification products of the Escherichia coli K12 DnaJ gene sequence and of the Mycobacterium tuberculosis (BCG) IS6110 gene sequence. The various

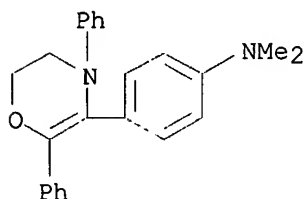
probes

include (i) chemiluminescencer particles incorporating the dye dioctadeconylbenzalacridan and having dT40 oligonucleotide immobilized on their surface, (ii) photosensitizer particles having chlorophyll/squarate incorporated and having streptavidin immobilized on their surface, and (iii) the synthesis of C-28 thioxene and silicon tetra-t-Bu

phthalocyanine

for use as photosensitizers.

L11 ANSWER (2) OF 13 REGISTRY COPYRIGHT 1999 ACS
 RN 185017-13-4 REGISTRY
 CN Benzenamine,
 4-(3,4-dihydro-4,6-diphenyl-2H-1,4-oxazin-5-yl)-N,N-dimethyl-
 (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C24 H24 N2 O
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

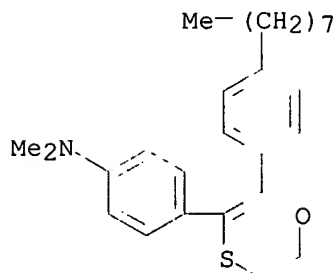
REFERENCE 1: 126:44640 Metal chelate-containing compositions for use in chemiluminescent assays. Singh, Sharat; Ullman, Edwin F. (Behringwerke Ag, Germany). U.S. US 5578498 A 19961126, 23 pp. Cont.-in-part of U.S. Ser. No. 704,569. (English). CODEN: USXXAM. APPLICATION: US 93-156181 19931122. PRIORITY: US 91-704569 19910522.

AB Comps. are disclosed comprising (1) a metal chelate wherein the metal is selected from the group consisting of europium, terbium, dysprosium, samarium, osmium, and ruthenium in at least a hexa coordinated state and (2) a compd. having a double bond substituted with 2 aryl groups, an O atom, and an atom selected from the group consisting of O, S, and N, wherein one of the aryl groups is electron donating with respect to the other. Such compn. is preferably incorporated in a latex particulate material. Methods and kits are also disclosed for detg. an analyte,

e.g.,

T3, in a medium suspected of contg. the analyte. The methods and kits employ as one component a compn. as described above.

L11 ANSWER (3) OF 13 REGISTRY COPYRIGHT 1999 ACS
 RN 185017-12-3 REGISTRY
 CN Benzenamine, 4-[5,6-dihydro-2-(4-octylphenyl)-1,4-oxathiin-3-yl]-N,N-dimethyl- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C26 H35 N O S
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

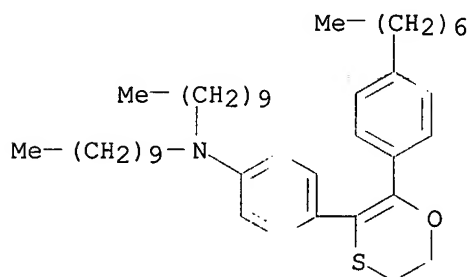
REFERENCE 1: 126:44640 Metal chelate-containing compositions for use in chemiluminescent assays. Singh, Sharat; Ullman, Edwin F. (Behringwerke Ag, Germany). U.S. US ~~5578498 A~~ 19961126, 23 pp. Cont.-in-part of U.S. Ser. No. 704,569. (English). CODEN: USXXAM. APPLICATION: US 93-156181 19931122. PRIORITY: US 91-704569 19910522. *parent*

AB Compns. are disclosed comprising (1) a metal chelate wherein the metal is selected from the group consisting of europium, terbium, dysprosium, samarium, osmium, and ruthenium in at least a hexa coordinated state and (2) a compd. having a double bond substituted with 2 aryl groups, an O atom, and an atom selected from the group consisting of O, S, and N, wherein one of the aryl groups is electron donating with respect to the other. Such compn. is preferably incorporated in a latex particulate material. Methods and kits are also disclosed for detg. an analyte,

e.g.,

T3, in a medium suspected of contg. the analyte. The methods and kits employ as one component a compn. as described above.

L11 ANSWER (4) OF 13 REGISTRY COPYRIGHT 1999 ACS
RN 185017-11-2 REGISTRY
CN Benzenamine,
N,N-didecyl-4-[2-(4-heptylphenyl)-5,6-dihydro-1,4-oxathiin-3-yl]- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C43 H69 N O S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

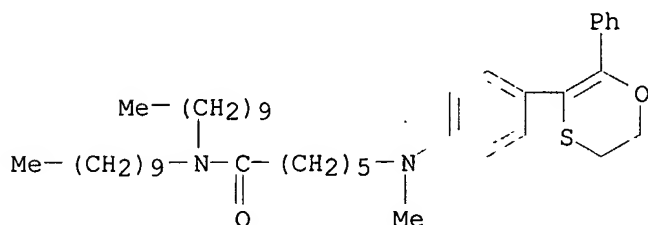
REFERENCE 1: 126:44640 Metal chelate-containing compositions for use in chemiluminescent assays. Singh, Sharat; Ullman, Edwin F. (Behringwerke Ag, Germany). U.S. US 5578498 A 19961126, 23 pp. Cont.-in-part of U.S. Ser. No. 704,569. (English). CODEN: USXXAM. APPLICATION: US 93-156181 19931122. PRIORITY: US 91-704569 19910522. *parent*

AB Compns. are disclosed comprising (1) a metal chelate wherein the metal is selected from the group consisting of europium, terbium, dysprosium, samarium, osmium, and ruthenium in at least a hexa coordinated state and (2) a compd. having a double bond substituted with 2 aryl groups, an O atom, and an atom selected from the group consisting of O, S, and N, wherein one of the aryl groups is electron donating with respect to the other. Such compn. is preferably incorporated in a latex particulate material. Methods and kits are also disclosed for detg. an analyte,

e.g.,

T3, in a medium suspected of contg. the analyte. The methods and kits employ as one component a compn. as described above.

L11 ANSWER (5) OF 13 REGISTRY COPYRIGHT 1999 ACS
RN 185017-10-1 REGISTRY
CN Hexanamide, N,N-didecyl-6-[[4-(5,6-dihydro-2-phenyl-1,4-oxathiin-3-yl)phenyl]methylamino]- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C43 H68 N2 O2 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640 Metal chelate-containing compositions for use in chemiluminescent assays. Singh, Sharat; Ullman, Edwin F. (Behringwerke Ag, Germany). U.S. ~~US-5578498~~ A 19961126, 23 pp. Cont.-in-part of U.S. Ser. No. 704,569. (English). CODEN: USXXAM. APPLICATION: US 93-156181 19931122. PRIORITY: US 91-704569 19910522.

AB Compns. are disclosed comprising (1) a metal chelate wherein the metal is selected from the group consisting of europium, terbium, dysprosium, samarium, osmium, and ruthenium in at least a hexa coordinated state and (2) a compd. having a double bond substituted with 2 aryl groups, an O atom, and an atom selected from the group consisting of O, S, and N, wherein one of the aryl groups is electron donating with respect to the other. Such compn. is preferably incorporated in a latex particulate material. Methods and kits are also disclosed for detg. an analyte,

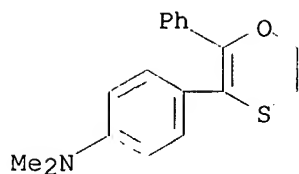
e.g.,

T3, in a medium suspected of contg. the analyte. The methods and kits employ as one component a compn. as described above.

L11 ANSWER (6) OF 13 REGISTRY COPYRIGHT 1999 ACS
RN 156574-52-6 REGISTRY
CN Benzenamine, 4-(5,6-dihydro-2-phenyl-1,4-oxathiin-3-yl)-N,N-dimethyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1,4-Oxathiin, benzenamine deriv.
FS 3D CONCORD
MF C18 H19 N O S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640 Metal chelate-containing compositions for use in chemiluminescent assays. Singh, Sharat; Ullman, Edwin F. (Behringwerke Ag, Germany). U.S. ~~US 5578498~~ A 19961126, 23 pp. Cont.-in-part of U.S. Ser. No. 704,569. (English). CODEN: USXXAM. APPLICATION: US 93-156181 19931122. PRIORITY: US 91-704569 19910522. pu

AB Compsn. are disclosed comprising (1) a metal chelate wherein the metal is selected from the group consisting of europium, terbium, dysprosium, samarium, osmium, and ruthenium in at least a hexa coordinated state and (2) a compd. having a double bond substituted with 2 aryl groups, an O atom, and an atom selected from the group consisting of O, S, and N, wherein one of the aryl groups is electron donating with respect to the other. Such compn. is preferably incorporated in a latex particulate material. Methods and kits are also disclosed for detg. an analyte,

e.g., T3, in a medium suspected of contg. the analyte. The methods and kits employ as one component a compn. as described above.

REFERENCE (2): 121:77669 Luminescent oxygen channeling immunoassay: measurement of particle binding kinetics by chemiluminescence. Ullman, Edwin F.; Kirakossian, Hrair; Singh, Sharat; Wu, Z. Ping; Irvin, Benjamin R.; Pease, John S.; Switchenko, Arthur C.; Irvine, Jennifer D.; Dafforn, Alan; et al. (Res. Dep., Palo Alto, CA, 94303, USA). Proc. Natl. Acad. Sci. U. S. A., 91(12), 5426-30 (English), 1994. CODEN: PNASA6. ISSN: 0027-8424.

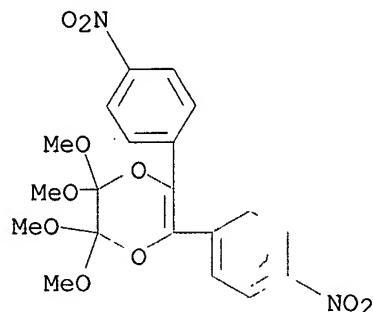
AB A method for monitoring formation of latex particle pairs by chemiluminescence is described. Mol. oxygen is excited by a photosensitizer and an antenna dye that are dissolved in one of the particles. 1.DELTA.gO2 diffuses to the second particle and initiates a high quantum yield chemiluminescent reaction of an olefin that is dissolved in it. The efficiency of 1.DELTA.gO2 transfer between

particles is .apprxeq.3.5%. The technique permits real-time measurement of particle binding kinetics. Second-order rate consts. increase with the no. of receptor binding sites on the particles and approach diffusion control. By using antibody-coated particles, a homogeneous immunoassay capable of detecting .apprxeq.4 amol of TSH in 12 min was demonstrated. Single

mols. of analyte produce particle heterodimers that are detected even when no larger aggregates are formed.

L11 ANSWER 7 OF 13 REGISTRY COPYRIGHT 1999 ACS
RN 85291-05-0 REGISTRY
CN 1,4-Dioxin, 2,3-dihydro-2,2,3,3-tetramethoxy-5,6-bis(4-nitrophenyl)-(9CI)

(CA INDEX NAME)
FS 3D CONCORD
MF C20 H20 N2 O10
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 98:159962 Chemistry of ketene acetals V. Catalyzed and noncatalyzed [2 + 2]- and [4 + 2]-cycloadditions between 1,2-diketones and

ketene acetals. Bakker, C. G.; Scheeren, J. W.; Nivard, R. J. F. (Dep. Org. Chem., Catholic Univ. Nijmegen, Nijmegen, 6525 ED, Neth.). Recl.: J. R. Neth. Chem. Soc., 102(2), 96-102 (English) 1983. CODEN: RJRSDK.

AB Generally, 1,1-dimethoxypropene (I) yields only [2 + 2]-cycloadducts, viz.

oxetanes and bisoxetanes, in reactions with 1,2-diketones; [4 + 2]-cycloaddn. products, viz. dihydrodioxins, are not formed because of their thermodyn. instability. In similar reactions of tetramethoxyethene (II), dihydrodioxins, however, are obtained, when the [4 + 2]-cycloaddn. is accompanied by an increase in the stabilization energy of the diketone moiety. The difference between I and II can be ascribed to the low .pi.-bond energy of II.

L11 ANSWER 8 OF 13 REGISTRY COPYRIGHT 1999 ACS

RN 73268-59-4 REGISTRY

CN Acetamide, N,N'-[(5,6-dihydro-1,4-dioxin-2,3-diyl)di-4,1-phenylene]bis-(9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

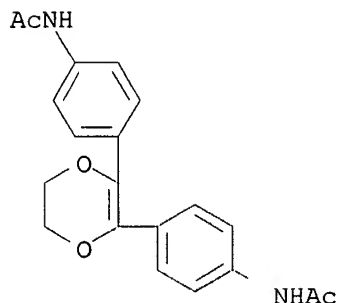
CN 1,4-Dioxin, acetamide deriv.

FS 3D CONCORD

MF C20 H20 N2 O4

LC STN Files: BEILSTEIN*, CA, CAPLUS

(*File contains numerically searchable property data)

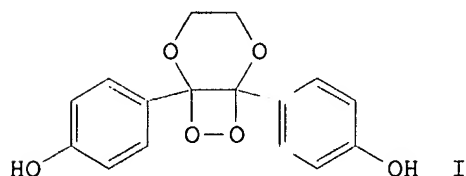


2 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 97:215215 Substituent effects on the decomposition of 1,2-dioxetanes: a Hammett correlation for substituted 1,6-diaryl-2,5,7,8-tetraoxabicyclo[4.2.0]octanes. Schaap, A. Paul; Gagnon, Steven D.; Zaklika, K. A. (Dep. Chem., Wayne State Univ., Detroit, MI, 48202, USA). Tetrahedron Lett., 23(29), 2943-6 (English) 1982. CODEN: TELEAY. ISSN: 0040-4039.

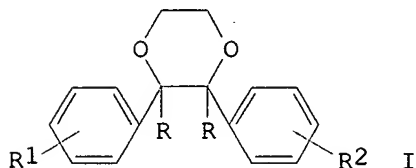
GI



AB Rates of decompn. of 1,2-dioxetanes, e.g., I, prepd. by photooxygenation of the corresponding olefins, obeyed a Hammett relationship with reaction consts. $\rho_{+} = -0.24$ and $\rho_{-} = -0.38$. A biradical mechanism is proposed for this decompn.

REFERENCE 2: 92:146120 Mechanisms of photooxygenation. 1. Substituent effects on the [2 + 2] cycloaddition of singlet oxygen to vinyl ethers. Zaklika, K. A.; Kaskar, Bashir; Schaap, A. Paul (Dep. Chem., Wayne State Univ., Detroit, MI, 48202, USA). J. Am. Chem. Soc., 102(1), 386-9 (English) 1980. CODEN: JACSAT. ISSN: 0002-7863.

GI



AB 2,3-Diaryl-1,4-dioxenes (I; R2 = bond, R1, R2 = Me2N, OH, MeO, Me, AcNH, H, Cl, CN) undergo [2+2] cycloaddn. with singlet oxygen (1O_2) to give dioxetanes (I; R2 = O2). The relationship of photooxidn. rates (k) to the free energy of electron transfer (calcd. from oxidn. potentials for I) indicates cycloaddn. does not involve I radical cation and O_2 in vln. cntdot.. The k show a linear Hammett relationship with the sum of the substituent consts., σ , for substituents on both aryl groups, giving a σ of -0.82. Arguments based on unsym. substitution in I suggest a sym. transition state with the exclusion of transition states resembling zwitterions or biradicals.

L11 ANSWER 9 OF 13 REGISTRY COPYRIGHT 1999 ACS
 RN 73260-62-5 REGISTRY
 CN Benzonitrile,
 4-[3-[4-(dimethylamino)phenyl]-5,6-dihydro-1,4-dioxin-2-yl]-
 (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

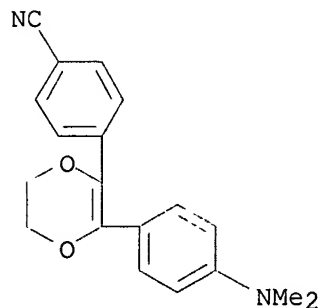
CN 1,4-Dioxin, benzonitrile deriv.

FS 3D CONCORD

MF C19 H18 N2 O2

LC STN Files: BEILSTEIN*, CA, CAPLUS

(*File contains numerically searchable property data)

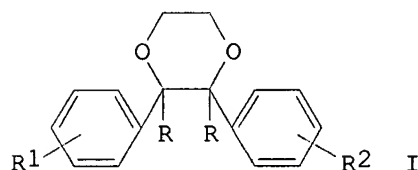


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 92:146120 Mechanisms of photooxygenation. 1. Substituent effects on the [2 + 2] cycloaddition of singlet oxygen to vinyl ethers. Zaklika, K. A.; Kaskar, Bashir; Schaap, A. Paul (Dep. Chem., Wayne State Univ., Detroit, MI, 48202, USA). J. Am. Chem. Soc., 102(1), 386-9 (English) 1980. CODEN: JACSAT. ISSN: 0002-7863.

GI



AB 2,3-Diaryl-1,4-dioxenes (I; R2 = bond, R1, R2 = Me2N, OH, MeO, Me, AcNH, H, Cl, CN) undergo [2+2]cycloaddn. with singlet oxygen (1O2) to give dioxetanes (I; R2 = O2). The relationship of photooxidn. rates (k) to the free energy of electron transfer (calcd. from oxidn. potentials for I) indicates cycloaddn. does not involve I radical cation and O2.hivin..cntdot.. The k show a linear Hammett relationship with the sum of the substituent consts., .sigma., for substituents on both aryl groups, giving a .sigma. of -0.82. Arguments based on unsym. substitution in I suggest a sym. transition state with the exclusion of transition states resembling zwitterions or biradicals.

L11 ANSWER 10 OF 13 REGISTRY COPYRIGHT 1999 ACS

RN 73260-61-4 REGISTRY

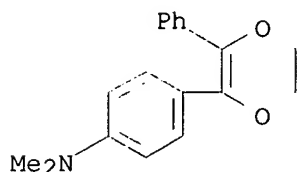
CN Benzenamine, 4-(5,6-dihydro-3-phenyl-1,4-dioxin-2-yl)-N,N-dimethyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1,4-Dioxin, benzenamine deriv.

FS 3D CONCORD

MF C18 H19 N O2
LC STN Files: BEILSTEIN*, CA, CAPLUS, USPATFULL
(*File contains numerically searchable property data)



3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:44640 Metal chelate-containing compositions for use in chemiluminescent assays. Singh, Sharat; Ullman, Edwin F. (Behringwerke Ag, Germany). U.S. US 5578498 A 19961126, 23 pp. Cont.-in-part of U.S. Ser. No. 704,569. (English). CODEN: USXXAM. APPLICATION: US 93-156181 19931122. PRIORITY: US 91-704569 19910522.

AB Comps. are disclosed comprising (1) a metal chelate wherein the metal is selected from the group consisting of europium, terbium, dysprosium, samarium, osmium, and ruthenium in at least a hexa coordinated state and (2) a compd. having a double bond substituted with 2 aryl groups, an O atom, and an atom selected from the group consisting of O, S, and N, wherein one of the aryl groups is electron donating with respect to the other. Such compn. is preferably incorporated in a latex particulate material. Methods and kits are also disclosed for detg. an analyte,

e.g.,

T3, in a medium suspected of contg. the analyte. The methods and kits employ as one component a compn. as described above.

REFERENCE 2: 121:77669 Luminescent oxygen channeling immunoassay: measurement of particle binding kinetics by chemiluminescence. Ullman, Edwin F.; Kirakossian, Hrair; Singh, Sharat; Wu, Z. Ping; Irvin, Benjamin R.; Pease, John S.; Switchenko, Arthur C.; Irvine, Jennifer D.; Dafforn, Alan; et al. (Res. Dep., Palo Alto, CA, 94303, USA). Proc. Natl. Acad. Sci. U. S. A., 91(12), 5426-30 (English) 1994. CODEN: PNASA6. ISSN: 0027-8424.

AB A method for monitoring formation of latex particle pairs by chemiluminescence is described. Mol. oxygen is excited by a photosensitizer and an antenna dye that are dissolved in one of the particles. 1.DELTA.gO2 diffuses to the second particle and initiates a high quantum yield chemiluminescent reaction of an olefin that is dissolved in it. The efficiency of 1.DELTA.gO2 transfer between particles

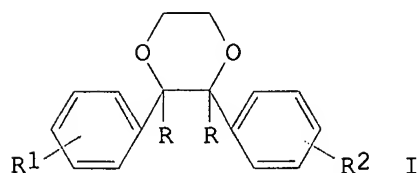
is .apprxeq.3.5%. The technique permits real-time measurement of particle

binding kinetics. Second-order rate consts. increase with the no. of receptor binding sites on the particles and approach diffusion control. By using antibody-coated particles, a homogeneous immunoassay capable of detecting .apprxeq.4 amol of TSH in 12 min was demonstrated. Single mols.

of analyte produce particle heterodimers that are detected even when no larger aggregates are formed.

REFERENCE 3: 92:146120 Mechanisms of photooxygenation. 1. Substituent effects on the [2 + 2] cycloaddition of singlet oxygen to vinyl ethers. Zaklika, K. A.; Kaskar, Bashir; Schaap, A. Paul (Dep. Chem., Wayne State Univ., Detroit, MI, 48202, USA). J. Am. Chem. Soc., 102(1), 386-9

GI



AB 2,3-Diaryl-1,4-dioxenes (I; R2 = bond, R1, R2 = Me2N, OH, MeO, Me, AcNH, H, Cl, CN) undergo [2+2]cycloaddn. with singlet oxygen (1O2) to give dioxetanes (I; R2 = O2). The relationship of photooxidn. rates (k) to the free energy of electron transfer (calcd. from oxidn. potentials for I) indicates cycloaddn. does not involve I radical cation and O2.hivin..cntdot.. The k show a linear Hammett relationship with the sum of the substituent consts., .sigma., for substituents on both aryl groups, giving a .sigma. of -0.82. Arguments based on unsym. substitution in I suggest a sym. transition state with the exclusion of transition states resembling zwitterions or biradicals.

L11 ANSWER 11 OF 13 REGISTRY COPYRIGHT 1999 ACS

RN 73260-57-8 REGISTRY

CN Benzenamine, 4,4'-(5,6-dihydro-1,4-dioxin-2,3-diyl)bis[N,N-dimethyl- (9CI)

(CA INDEX NAME)

OTHER CA INDEX NAMES:

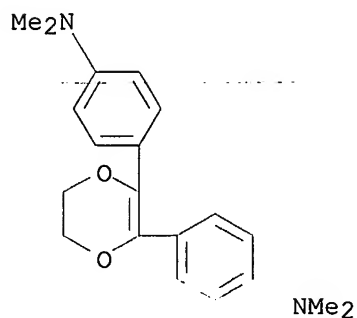
CN 1,4-Dioxin, benzenamine deriv.

FS 3D CONCORD

MF C20 H24 N2 O2

LC STN Files: BEILSTEIN*, CA, CAPLUS

(*File contains numerically searchable property data)

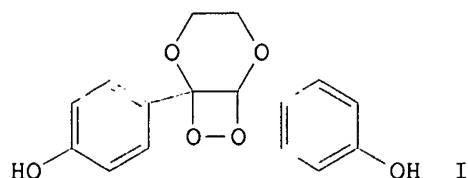


2 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 97:215215 Substituent effects on the decomposition of 1,2-dioxetanes: a Hammett correlation for substituted 1,6-diaryl-2,5,7,8-tetraoxabicyclo[4.2.0]octanes. Schaap, A. Paul; Gagnon, Steven D.; Zaklika, K. A. (Dep. Chem., Wayne State Univ., Detroit, MI, 48202, USA).

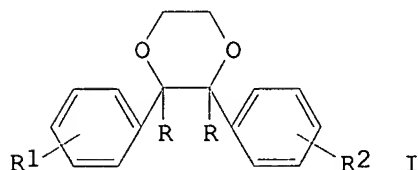
GI



AB Rates of decompn. of 1,2-dioxetanes, e.g., I, prepd. by photooxygenation of the corresponding olefins, obeyed a Hammett relationship with reaction consts. $\rho_{\text{HO}^+} = -0.24$ and $\rho_{\text{HO}^-} = -0.38$. A biradical mechanism is proposed for this decompn.

REFERENCE (2): 92:146120 Mechanisms of photooxygenation. 1. Substituent effects on the [2 + 2] cycloaddition of singlet oxygen to vinyl ethers. Zaklika, K. A.; Kaskar, Bashir; Schaap, A. Paul (Dep. Chem., Wayne State Univ., Detroit, MI, 48202, USA). J. Am. Chem. Soc., 102(1), 386-9 (English) 1980. CODEN: JACSAT. ISSN: 0002-7863.

GI



AB 2,3-Diaryl-1,4-dioxenes (I; R2 = bond, R1, R2 = Me2N, OH, MeO, Me, AcNH, H, Cl, CN) undergo [2+2]cycloaddn. with singlet oxygen (O_2) to give dioxetanes (I; R2 = O2). The relationship of photooxidn. rates (k) to the free energy of electron transfer (calcd. from oxidn. potentials for I) indicates cycloaddn. does not involve I radical cation and O_2 .hivin..cntdot.. The k show a linear Hammett relationship with the sum of the substituent consts., σ , for substituents on both aryl groups, giving a σ of -0.82. Arguments based on unsym. substitution in I suggest a sym. transition state with the exclusion of transition states resembling zwitterions or biradicals.

L11 ANSWER 12 OF 13 REGISTRY COPYRIGHT 1999 ACS

RN 58041-52-4 REGISTRY

CN Benzenamine, 4-(5,6-dihydro-2-phenyl-1,4-oxathiin-3-yl)- (9CI) (CA INDEX NAME)

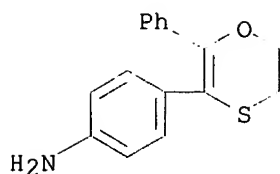
OTHER CA INDEX NAMES:

CN 1,4-Oxathiin, benzenamine deriv.

FS 3D CONCORD

MF C16 H15 N O S

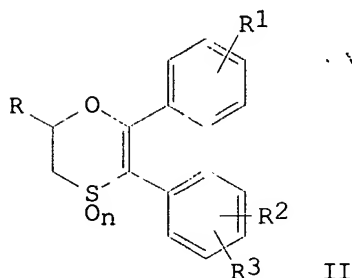
LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 87:53323 Substituted 2,3-dihydro-1,4-oxathiin plant growth regulators. Graham, Bruce A.; Puttock, Michael A.; Felauer, Ethel E.; Neidermyer, Robert W. (Uniroyal, Inc., USA; Uniroyal Ltd.). U.S. US 4020168 19770426, 9 pp. Division of U.S. 3,947,264. (English). CODEN: USXXAM. APPLICATION: US 74-459442 19740409.

GI



AB The title compds. I (R = Me, Et, H; R1 = H, Me, Cl, F, MeS, AcO; R2, R3 = H, Cl, Br, Me, F, NH2, Et, MeO; n = 0-2), useful as herbicides for beans, cotton, soybeans, and wheat, were obtained by cyclocondensation of a chlorinated phenylacetophenone with a mercaptoalkanol. The oxides were obtained by oxidn. with H2O2.

REFERENCE 2: 84:44080 Substituted 2,3-dihydro-1,4-oxathiin as plant growth regulators. Graham, Bruce Allan; Puttock, Michael A.; Felauer, Ethel E.; Neidermyer, Robert W. (Uniroyal, Inc., Can.; Uniroyal Ltd.). Ger. Offen. DE 2513202 19751023, 53 pp. (German). CODEN: GWXXBX. PRIORITY: US 74-459442 19740409.

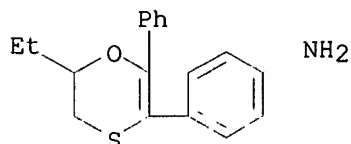
GI For diagram(s), see printed CA Issue.

AB Fifty-one oxathiins I (R = H, Me; R1 = H, 2-, 3-, 4-Me, 2-, 3-, 4-Cl, 4-F,

4-MeS, 4-AcO; Rm2 = H, 2-, 3-, 4-Cl, 4-Br, 2-, 3-, 4-Me, 4-F, 4-NH2, 4-Et,

3-, 4-MeO, 3,4-Me2, 3,5-Me2, 3,4-MeCl; n = 0, 1, 2), useful as plant growth regulators, were prepd. by reacting a 2-mercaptoalkanol with a 2-chloro-2-phenylacetophenone (or the reaction product of a 2-phenylacetophenone and SO2Cl2) and cyclizing the product with p-MeC6H4SO3H to give I (n = 0). Treatment of I (n = 0) with 1.04 moles H2O2 gave I (n = 1) and with 2 moles H2O2 gave I (n = 2). I (R = R1 = H, Rm2 = 4-Me, n = 1), e.g., gave 100% preemergent control of wild grasses, 80% control of wild oats, had no effect on sugar beets and corn, and damaged 20% soybeans. Herbicidal activity and plant growth regulatory activity of I on peas, soybeans, cotton, and wheat were tabulated.

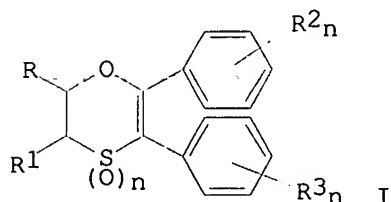
L11 ANSWER 13 OF 13 REGISTRY COPYRIGHT 1999 ACS
 RN 58041-44-4 REGISTRY
 CN Benzenamine, 4-(6-ethyl-5,6-dihydro-2-phenyl-1,4-oxathiin-3-yl)- (9CI)
 (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 1,4-Oxathiin, benzenamine deriv.
 FS 3D CONCORD
 MF C18 H19 N O S
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL



3 REFERENCES IN FILE CA (1967 TO DATE)
 3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 88:62399 Plant growth regulation using certain substituted 2,3-dihydro-1,4-oxathiins. Graham, Bruce A.; Puttock, Michael A.; Felauer, Ethel E.; Neidermyer, Robert W. (Uniroyal, Inc., USA; Uniroyal Ltd.). U.S. US 4043792 19770823, 9 pp. Division of U.S. 3,947,264. (English). CODEN: USXXAM. APPLICATION: US 74-459442 19740409.

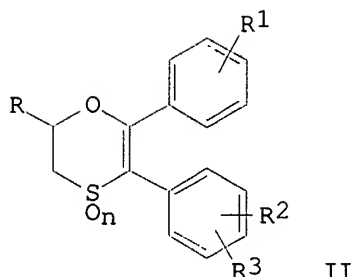
GI



AB The title compds. I (R0-4 = same or different H, halo, alkoxy, amino, AcO, etc., n = 0, 1, 2), useful as herbicides (test data given for control of annuals) and as plant growth regulators (data given for soybean auxiliary growth control and delaying of fruit blossom opening), were prepd. Thus, chlorination of PhCH2COPh with SO2Cl2 followed by cyclization with HSCH2CH2OH gave I (R0-4 = H; n = 0).

REFERENCE 2: 87:53323 Substituted 2,3-dihydro-1,4-oxathiin plant growth regulators. Graham, Bruce A.; Puttock, Michael A.; Felauer, Ethel E.; Neidermyer, Robert W. (Uniroyal, Inc., USA; Uniroyal Ltd.). U.S. US 4020168 19770426, 9 pp. Division of U.S. 3,947,264. (English). CODEN: USXXAM. APPLICATION: US 74-459442 19740409.

GI



AB The title compds. I (R = Me, Et, H; R1 = H, Me, Cl F, MeS, AcO; R2, R3 = H, Cl Br, Me, F, NH2, Et, MeO; n = 0-2), useful as herbicides for beans, cotton, soybeans, and wheat, were obtained by cyclocondensation of a chlorinated phenylacetophenone with a mercaptoalkanol. The oxides were obtained by oxidn. with H2O2.

REFERENCE (3) 84:44080 Substituted 2,3-dihydro-1,4-oxathiin as plant growth regulators. Graham, Bruce Allan; Puttock, Michael A.; Felauer, Ethel E.; Neidermyer, Robert W. (Uniroyal, Inc., Can.; Uniroyal Ltd.). Ger. Offen. DE 2513202 19751023, 53 pp. (German). CODEN: GWXXBX. PRIORITY: US 74-459442 19740409.

GI For diagram(s), see printed CA Issue.

AB Fifty-one oxathiins I (R = H, Me; R1 = H, 2-, 3-, 4-Me, 2-, 3-, 4-Cl, 4-F, 4-MeS, 4-AcO; Rm2 = H, 2-, 3-, 4-Cl, 4-Br, 2-, 3-, 4-Me, 4-F, 4-NH2, 4-Et, 3-, 4-MeO, 3,4-Me2, 3,5-Me2, 3,4-MeCl; n = 0, 1, 2), useful as plant growth regulators, were prepd. by reacting a 2-mercaptoalkanol with a 2-chloro-2-phenylacetophenone (or the reaction product of a 2-phenylacetophenone and SO2Cl2) and cyclizing the product with p-MeC6H4SO3H to give I (n = 0). Treatment of I (n = 0) with 1.04 moles H2O2 gave I (n = 1) and with 2 moles H2O2 gave I (n = 2). I (R = R1 = H, Rm2 = 4-Me, n = 1), e.g., gave 100% preemergent control of wild grasses, 80% control of wild oats, had no effect on sugar beets and corn, and damaged 20% soybeans. Herbicidal activity and plant growth regulatory activity of I on peas, soybeans, cotton, and wheat were tabulated.

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NUMERIC VALUE NOT VALID 'SINGH S?'

0 SINGH S?/ZZ

0 SINGH S?/ZZ

L12 0 SINGH S?/AU,IN

NUMERIC VALUE NOT VALID 'ULLMAN E?'

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0 ULLMAN E?/ZZ

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L13 0 ULLMAN E?/AU,IN

=> fil medl,caplus,biosis,embase,wpids

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SESSION

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=> s singh s?/au,in;s ullman e?/au,in

'IN' IS NOT A VALID FIELD CODE
 L14 2687 FILE MEDLINE
 L15 6023 FILE CAPLUS
 L16 6974 FILE BIOSIS
 'IN' IS NOT A VALID FIELD CODE
 L17 2552 FILE EMBASE
 L18 171 FILE WPIDS

TOTAL FOR ALL FILES
 L19 18407 SINGH S?/AU,IN

'IN' IS NOT A VALID FIELD CODE
 L20 45 FILE MEDLINE
 L21 218 FILE CAPLUS
 L22 89 FILE BIOSIS
 'IN' IS NOT A VALID FIELD CODE
 L23 33 FILE EMBASE
 L24 109 FILE WPIDS

TOTAL FOR ALL FILES
 L25 494 ULLMAN E?/AU,IN

=> s 119 and 125

L26 2 FILE MEDLINE
 L27 7 FILE CAPLUS
 L28 3 FILE BIOSIS
 L29 2 FILE EMBASE
 L30 4 FILE WPIDS

TOTAL FOR ALL FILES
 L31 18 L19 AND L25

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PROCESSING COMPLETED FOR L31
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L32 ANSWER (1) OF 9 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 1
AN 1997:740386 CAPLUS
DN 128:11618
TI Chemiluminescent compositions and their use in the detection of hydrogen peroxide
IN Ullman, Edwin F.; Singh, Sharat
PA Behringwerke Aktiengesellschaft, Germany; Ullman, Edwin F.
SO PCT Int. Appl., 72 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N033-58
ICS C12Q001-28
CC 9-5 (Biochemical Methods)
Section cross-reference(s): 1, 2, 15, 79

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9741442	A1	19971106	WO 97-US7265	19970501
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,				
SE	EP 852012	A1	19980708	EP 97-922568	19970501
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
PRAI	US 96-17075		19960501		
	WO 97-US7265		19970501		
AB	Compsn., methods, and kits are disclosed for detecting hydrogen peroxide or a compd. capable of generating hydrogen peroxide, esp. in clin. chem. The comps. comprise a matrix having incorporated therein a label capable of being modified by singlet oxygen. A catalyst capable of catalyzing				
the	formation of singlet oxygen is bound to the matrix, which permits the diffusion of singlet oxygen therein. A sample suspected of contg. a compd. that can generate hydrogen peroxide is combined with a compn. in accordance with the present invention. The combination is subjected to conditions wherein such compd. generates hydrogen peroxide. The reaction of singlet oxygen with the label is detd., the reaction thereof				
indicating	the presence of the compd. capable of generating hydrogen peroxide. Examples are given of the detn. of glucose, cholesterol, theophylline, chorionic gonadotropin, .				
ST	hydrogen peroxide detection chemiluminescence singlet oxygen; biomol metabolite detn hydrogen peroxide				
IT	Bilayer (biological membrane)				
	Blood analysis				
	Body fluid				
	Chemiluminescence spectroscopy				
	Chemiluminescent substances				
	Fluorescent substances				
	Fluorometry				
	Latex				
	Liposomes				
	Test kits				
	Urine analysis				
	(chemiluminescent comps. for detecting hydrogen peroxide)				
IT	Antigens				
	Organic compounds, analysis				

Peptides, analysis
Polynucleotides
RL: ANT (Analyte); ANST (Analytical study)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT Alkenes, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT Antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT Enzymes, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT Immobilized antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT Tellurides
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT Alcohols, biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT Amines, biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT Carbohydrates, biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT Liposomes
(multilamellar; chemiluminescent compns. for detecting hydrogen peroxide)

IT 50-99-7, Glucose, analysis 57-88-5, Cholesterol, analysis 58-55-9, Theophylline, analysis 7722-84-1, Hydrogen peroxide (H2O2), analysis 9002-61-3, Chorionic gonadotropin
RL: ANT (Analyte); ANST (Analytical study)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT 58-55-9D, Theophylline, galactose oxidase conjugates 6788-84-7, Dioxetane 9001-37-0, Glucose oxidase 9003-99-0, Peroxidase 9013-20-1, Streptavidin 9028-76-6, Cholesterol oxidase 9028-79-9, Galactose oxidase 9028-79-9D, Galactose oxidase, theophylline conjugates
9055-20-3, Chloroperoxidase 27980-52-5 93229-67-5, Haloperoxidase 199116-58-0
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT 7296-64-2, .beta.-D-Galactose
RL: ARG (Analytical reagent use); BPR (Biological process); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT 9003-99-0D, Lactoperoxidase, immobilized
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT 9003-99-0DP, Lactoperoxidase, biotinylated
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT 7440-06-4, Platinum, analysis 128523-62-6
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(chemiluminescent compns. for detecting hydrogen peroxide)

IT 58-68-4, NADH 69-93-2, Uric acid, biological studies 92-83-1, Xanthene

RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 60-24-2 66-71-7, 1,10-Phenanthroline 106-40-1, 4-Bromoaniline
 112-71-0, 1-Bromotetradecane 1074-12-0, Phenylglyoxal
 RL: RCT (Reactant)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 192937-53-4P 199116-59-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 14054-87-6DP, derivs. 14054-87-6P 192937-52-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (chemiluminescent compns. for detecting hydrogen peroxide)
 IT 7782-44-7, Oxygen, uses
 RL: ARG (Analytical reagent use); FMU (Formation, unclassified); ANST
 (Analytical study); FORM (Formation, nonpreparative); USES (Uses)
 (singlet; chemiluminescent compns. for detecting hydrogen peroxide)

L32 ANSWER 2 OF 9 BIOSIS COPYRIGHT 1999 BIOSIS
 AN 1997:334908 BIOSIS
 DN PREV199799634111
 TI High-sensitivity homogeneous HBsAg LOCI assay.
 AU Ishkanian, Jacqueline S.; Kurn, Nurith; Kirakossian, Hrair; Singh,
 Sharat; Wagner, Daniel B.; Ullman, Edwin F.
 CS Behring Diagnostics GmbH, San Jose, CA 95135 USA
 SO Clinical Chemistry, (1997) Vol. 43, No. 6 PART 2, pp. S241.
 Meeting Info.: 49th Annual Meeting of the American Association for
 Clinical Chemistry Atlanta, Georgia, USA July 20-24, 1997
 ISSN: 0009-9147.
 DT Conference; Abstract; Conference
 LA English
 CC General Biology - Symposia, Transactions and Proceedings of Conferences,
 Congresses, Review Annuals 00520
 Clinical Biochemistry; General Methods and Applications *10006
 Biochemical Methods - Proteins, Peptides and Amino Acids *10054
 Blood, Blood-Forming Organs and Body Fluids - General; Methods *15001
 Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies
 *15002
 Virology - Animal Host Viruses *33506
 Medical and Clinical Microbiology - General; Methods and Techniques
 *36001
 Medical and Clinical Microbiology - Virology *36006
 BC Hepadnaviridae 02611
 Hominidae *86215
 IT Major Concepts
 Blood and Lymphatics (Transport and Circulation); Clinical Chemistry
 (Allied Medical Sciences); Infection; Methods and Techniques;
 Microbiology
 IT Chemicals & Biochemicals
 OXYGEN
 IT Miscellaneous Descriptors
 BLOOD AND LYMPHATICS; CLINICAL CHEMISTRY; DIAGNOSTIC METHOD; HEPATITIS
 B SOLUBLE ANTIGEN; INFECTION; LUMINESCENT OXYGEN CHANNELING ASSAY;
 METHODOLOGY; PLASMA; SERUM
 ORGN Super Taxa
 Hepadnaviridae: Viruses; Hominidae: Primates, Mammalia, Vertebrata,
 Chordata, Animalia
 ORGN Organism Name
 hepatitis B virus (Hepadnaviridae); human (Hominidae)
 ORGN Organism Superterms
 animals; chordates; humans; mammals; microorganisms; primates;
 vertebrates; viruses

RN 7782-44-7 (OXYGEN)

L32 ANSWER 3 OF 9 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 2

AN 1996:483856 CAPLUS

DN 125:162775

TI Method and kits for determining peroxidatively active catalysts ✓

IN Singh, Sharat; Switchenko, Arthur C.; Lin, Cheng-I.; Kurn, Nurith; Ullman, Edwin F.

PA Behringwerke Ag, Germany

SO U.S., 33 pp. Cont. of U.S. Ser. No. 951,922, abandoned.

CODEN: USXXAM

DT Patent

LA English

IC ICM G01N033-546

ICS C12Q001-28

NCL 435007930

CC 9-10 (Biochemical Methods)

Section cross-reference(s): 7, 15

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 5532138	A	19960702	US 94-263164	19940621
PRAI	US 90-516022		19900426		
	US 92-951922		19920806		

OS MARPAT 125:162775

AB Methods and compns. are disclosed for detg. a peroxidatively active catalyst, e.g., a peroxidase. The methods comprise the step of detecting a substance formed by the coupling reaction of (1) the product of the peroxidatively active catalyst-catalyzed oxidn. of a benzidine with (2) a coupler other than benzidine. The methods have application in a wide variety of systems including assays for analytes, and esp. enzyme immunoassays. Also disclosed are kits for conducting methods and assays in accordance with the present invention, and examples are given for the detection of Chlamydia in a clin. sample taken on a swab and for the detection of HIV antibodies in blood.

ST peroxidatively active catalyst detn kit; peroxidase detn benzidine reaction coupler EIA; enzyme immunoassay peroxidase detn benzidine coupler; blood HIV antibody detection immunoassay; Chlamydia detection immunoassay

IT Blood analysis

Chlamydia

Immunoassay

Peroxidation catalysts

(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT Antigens

RL: ANT (Analyte); ARG (Analytical reagent use); BPR (Biological

process);

ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT Antibodies

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT Ligands

Receptors

RL: ARG (Analytical reagent use); BPR (Biological process); ANST

(Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

(method and kits for detg. peroxidase and peroxidatively active

catalysts in biochem. anal.)

IT Hydroperoxides
RL: RCT (Reactant)
(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT Immunoassay
(enzyme, method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT Immunoassay
(enzyme-linked immunosorbent assay, method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT Virus, animal
(human immunodeficiency, antibodies; method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT 9003-99-0, Peroxidase
RL: ANT (Analyte); ANST (Analytical study)
(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT 84-85-5 92-87-5, [1,1'-Biphenyl]-4,4'-diamine 119-90-4 119-93-7
604-44-4 615-67-8 1878-84-8 2051-65-2 2359-58-2 5307-05-1
5409-15-4 13330-65-9 34915-18-9 92921-45-4 95265-29-5
153801-68-4 159146-77-7 159146-78-8 180526-85-6 180526-86-7
180526-87-8 180526-88-9
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT 92-87-5D, Benzidine, derivs. 490-79-9, Gentisic acid 52405-73-9
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study);
USES (Uses)
(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT 2150-46-1P, Methyl gentisate 61227-25-6P 159146-85-7P
RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT 2431-91-6P, 2,6-Dimethyl-4-methoxyphenol 4640-29-3P 9001-37-0DP,
Glucose oxidase, polystyrene conjugates 9003-53-6DP, Polystyrene,
carboxylated, glucose oxidase conjugates 25726-67-4P 53101-66-9P
159146-88-0P 180526-84-5P 180526-90-3P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT 7722-84-1, Hydrogen peroxide, biological studies
RL: BPR (Biological process); RCT (Reactant); BIOL (Biological study); PROC (Process)
(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT 84-67-3, 2,2'-Dimethylbenzidine 100-02-7, p-Nitrophenol, reactions
100-39-0, Benzyl bromide 106-93-4, 1,2-Dibromoethane 108-00-9
111-40-0 121-00-6 123-31-9, 1,4-Benzenediol, reactions 140-31-8,
1-Piperazineethanamine 394-31-0 527-18-4, Tetramethylhydroquinone
578-95-0, Acridone 654-42-2, 2,6-Dimethylhydroquinone 1882-72-0
5292-43-3, tert-Butylbromoacetate 5367-32-8, 2-Methyl-4-methoxynitrobenzene
7664-41-7, Ammonia, reactions 25620-62-6, Dibromoethane 31519-22-9
58479-61-1, tert-Butyl diphenylchlorosilane 180526-91-4
RL: RCT (Reactant)

(method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT 103-16-2P, 4-Benzyloxyphenol 3351-59-5P 6705-03-9P 13288-06-7P
 159146-79-9P 159146-84-6P 159146-86-8P 180526-79-8P 180526-80-1P
 180526-83-4P 180526-93-6P 180526-94-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

IT 490-79-9DP, Gentisic acid, amides 3958-79-0P 57556-21-5P
 180526-81-2P 180526-82-3P 180526-89-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (method and kits for detg. peroxidase and peroxidatively active catalysts in biochem. anal.)

L32 ANSWER ⁽⁴⁾ OF 9 CAPLUS COPYRIGHT 1999 ACS
 AN 1997:15510 CAPLUS
 DN 126:44640
 TI Metal chelate-containing compositions for use in chemiluminescent assays
 IN Singh, Sharat; Ullman, Edwin F.
 PA Behringwerke Ag, Germany
 SO U.S., 23 pp. Cont.-in-part of U.S. Ser. No. 704,569.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM G01N033-543
 ICS C09K011-06; C09K011-08
 NCL 436518000
 CC 9-5 (Biochemical Methods)
 Section cross-reference(s): 2, 73

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5578498	A	19961126	US 93-156181	19931122
	US 5340716	A	19940823	US 91-718490	19910620
	CA 2069145	AA	19921123	CA 92-2069145	19920521
	NO 9202009	A	19921123	NO 92-2009	19920521
	EP 515194	A2	19921125	EP 92-304630	19920521
	EP 515194	A3	19931020		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, PT, SE				
	AU 9217068	A1	19921126	AU 92-17068	19920521
	AU 657134	B2	19950302		
	IL 101945	A1	19980208	IL 92-101945	19920521
	JP 05180773	A2	19930723	JP 92-131039	19920522
	WO 9514928	A1	19950601	WO 94-US13193	19941121
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2177143	AA	19950601	CA 94-2177143	19941121
	EP 730738	A1	19960911	EP 95-901921	19941121
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
	JP 09505888	T2	19970610	JP 94-515126	19941121
	US 5536834	A	19960716	US 95-471131	19950606
	US 5811311	A	19980922	US 95-488228	19950607
	US 5780646	A	19980714	US 96-660029	19960606
PRAI	US 91-704569		19910522		
	US 91-718490		19910620		
	US 93-156181		19931122		
	WO 94-US13193		19941121		
	US 95-471131		19950606		
OS	MARPAT 126:44640				
AB	Compns. are disclosed comprising (1) a metal chelate wherein the metal is selected from the group consisting of europium, terbium, dysprosium,				

samarium, osmium, and ruthenium in at least a hexa coordinated state and (2) a compd. having a double bond substituted with 2 aryl groups, an O atom, and an atom selected from the group consisting of O, S, and N, wherein one of the aryl groups is electron donating with respect to the other. Such compn. is preferably incorporated in a latex particulate material. Methods and kits are also disclosed for detg. an analyte,

e.g.,

- T3, in a medium suspected of contg. the analyte. The methods and kits employ as one component a compn. as described above.
- ST metal chelate compn chemiluminescence assay; triiodothyronine detn chemiluminescence assay metal chelate
- IT Chemiluminescence spectroscopy
Latex
(metal chelate-contg. compns. for chemiluminescence assays)
- IT Chelates
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(metal chelate-contg. compns. for chemiluminescence assays)
- IT 543-75-9, Dioxene
RL: RCT (Reactant)
(9; metal chelate-contg. compns. for chemiluminescence assays)
- IT 6893-02-3, Triiodothyronine
RL: ANT (Analyte); ANST (Analytical study)
(metal chelate-contg. compns. for chemiluminescence assays)
- IT 14054-87-6P 58041-19-3P 73260-61-4P 156574-52-6P 157474-24-3P
185017-09-8P 185017-10-1P 185017-11-2P 185017-12-3P 185017-13-4P
185017-14-5P
RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(metal chelate-contg. compns. for chemiluminescence assays)
- IT 7429-91-6DP, Dysprosium, chelates 7440-04-2DP, Osmium, chelates
7440-18-8DP, Ruthenium, chelates 7440-19-9P, Samarium, preparation
7440-27-9DP, Terbium, chelates 7440-53-1DP, Europium, chelates
7704-34-9DP, Sulfur, compds. 7727-37-9DP, Nitrogen, compds.
7782-44-7DP, Oxygen, compds. 185017-22-5P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(metal chelate-contg. compns. for chemiluminescence assays)
- IT 9003-53-6, Polystyrene
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(metal chelate-contg. compns. for chemiluminescence assays)
- IT 17904-86-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(metal chelate-contg. compns. for chemiluminescence assays)
- IT 60-24-2 66-71-7, 1,10-Phenanthroline 100-10-7, p-Dimethylaminobenzaldehyde 100-52-7, Benzaldehyde, reactions 100-61-8, N-Methylaniline, reactions 104-03-0, p-Nitrophenylacetic acid
112-31-2, Decanal 122-98-5, 2-Anilinoethanol 479-61-8, Chlorophyll a
1120-49-6, Didecylamine 2132-86-7 6317-85-7 14660-52-7, Ethyl 5-bromo valerate 33907-10-7, p-Dimethylaminobenzoin 49763-66-8, p-Octylbenzaldehyde 69358-98-1 84370-49-0, Aluminum phthalocyanine
185017-21-4
RL: RCT (Reactant)
(metal chelate-contg. compns. for chemiluminescence assays)
- IT 146425-95-8P 185017-15-6P 185017-16-7P 185017-17-8P 185017-18-9P
185017-19-0P 185017-20-3P 185017-24-7P 185017-25-8P 185017-26-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(metal chelate-contg. compns. for chemiluminescence assays)
- IT 185017-23-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(metal chelate-contg. compns. for chemiluminescence assays)

L32 ANSWER 5 OF 9 MEDLINE DUPLICATE 3
 AN 96379710 MEDLINE
 DN 96379710
 TI Luminescent oxygen channeling assay (LOCI): sensitive, broadly applicable homogeneous immunoassay method.
 AU Ullman E F; Kirakossian H; Switchenko A C; Ishkanian J; Ericson M; Wartchow C A; Pirio M; Pease J; Irvin B R; Singh S; Singh R; Patel R; Dafforn A; Davalian D; Skold C; Kurn N; Wagner D B
 CS Research Department, Behring Diagnostics Inc., San Jose, CA 95161-9013, . USA.edwin.ullman@bdi.hcc.com
 SO CLINICAL CHEMISTRY, (1996 Sep) 42 (9) 1518-26.
 Journal code: DBZ. ISSN: 0009-9147.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals; Cancer Journals
 EM 199612
 AB Luminescent oxygen channeling assay (LOCI) is a homogeneous immunoassay method capable of rapid, quantitative determination of a wide range of analytes--including high and very low concentrations of large and small molecules, free (unbound) drugs, DNA, and specific IgM. Assays have been carried out in serum and in lysed blood. Reliable detection of 1.25 microU/L thyrotropin (TSH) and 5 ng/L hepatitis B surface antigen (HBsAg) corresponds to detection limits approximately 3- and approximately 20-fold lower, respectively, than those of the best commercially available assays.
 An assay of chorionic gonadotropin is capable of quantification over a 10(6)-fold range of concentrations without a biphasic response. Latex particle pairs are formed in the assay through specific binding interactions by sequentially combining the sample and two reagents. One particle contains a photosensitizer, the other a chemiluminescer. Irradiation causes photosensitized formation of singlet oxygen, which migrates to a bound particle and activates the chemiluminescer, thereby initiating a delayed luminescence emission. Assay times range from 1 to 25 min.
 CT Antigens, Viral: AN, analysis
 Chemiluminescence
 Chromatography, High Pressure Liquid
 Digoxin: AN, analysis
 Estradiol: AN, analysis
 Gonadotropins, Chorionic: AN, analysis
 Hepatitis B Surface Antigens: AN, analysis
 *Immunoassay: MT, methods
 Indoles
 Microscopy, Atomic Force
 *Oxygen
 Theophylline: AN, analysis
 Thyrotropin: AN, analysis
 RN 20830-75-5 (Digoxin); 50-28-2 (Estradiol); 574-93-6 (phthalocyanine); 58-55-9 (Theophylline); 7782-44-7 (Oxygen); 9002-71-5 (Thyrotropin)
 CN 0 (hepatitis A antigens); 0 (Antigens, Viral); 0 (Gonadotropins, Chorionic); 0 (Hepatitis B Surface Antigens); 0 (Indoles)
 L32 ANSWER 6 OF 9 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 4
 AN 1995:820770 CAPLUS
 DN 123:222300
 TI Metal chelate containing compositions for use in chemiluminescent assays
 IN Ullman, Edwin F.; Singh, Sharat

PA Syntex (U.S.A.) Inc., USA
 SO PCT Int. Appl., 76 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM G01N033-52
 ICS G01N033-58; C07D327-06; C07D265-30; G01N033-542; C12Q001-68
 CC 9-5 (Biochemical Methods)
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9514928	A1	19950601	WO 94-US13193	19941121
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5340716	A	19940823	US 91-718490	19910620
	US 5578498	A	19961126	US 93-156181	19931122
	EP 730738	A1	19960911	EP 95-901921	19941121
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
	JP 09505888	T2	19970610	JP 94-515126	19941121
PRAI	US 93-156181		19931122		
	US 91-704569		19910522		
	WO 94-US13193		19941121		

OS MARPAT 123:222300

AB Compns. are disclosed comprising (a) a metal chelate wherein the metal is selected from the group consisting of europium, terbium, dysprosium, samarium, osmium and ruthenium in at least a hexacoordinated state and

(b) a compd. having a double bond substituted with two aryl groups, an oxygen atom and an atom selected from the group consisting of oxygen, sulfur and nitrogen wherein one of the aryl groups is electron donating with respect to the other. Such compn. is preferably incorporated in a latex particulate material. Methods and kits are also disclosed for detg. an analyte in a medium suspected of contg. the analyte. The methods and

kits employ as one component a compn. as described above.

ST metal chelate compn chemiluminescent assay

IT Metals, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (chelates; metal chelate contg. compns. for use in chemiluminescent assays)

IT Immunoassay

(homogeneous; metal chelate contg. compns. for use in chemiluminescent assays)

IT Latex

Microorganism

Pharmaceutical analysis

Photosensitizers

(metal chelate contg. compns. for use in chemiluminescent assays)

IT Nucleic acids

Proteins, analysis

RL: ANT (Analyte); ANST (Analytical study)

(metal chelate contg. compns. for use in chemiluminescent assays)

IT Antibodies

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(metal chelate contg. compns. for use in chemiluminescent assays)

IT Avidins

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(metal chelate contg. compns. for use in chemiluminescent assays)

IT Ligands

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(metal chelate contg. compns. for use in chemiluminescent assays)

IT Porphyrins
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (metal chelate contg. compns. for use in chemiluminescent assays)

IT Receptors
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (metal chelate contg. compns. for use in chemiluminescent assays)

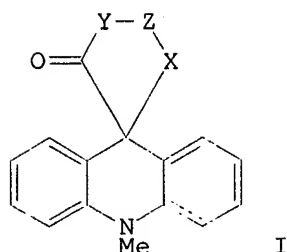
IT Spectrochemical analysis
 (chemiluminescence, metal chelate contg. compns. for use in
 chemiluminescent assays)

IT Nucleotides, uses
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (poly-, metal chelate contg. compns. for use in chemiluminescent
 assays)

IT 61-73-4, Methylene blue 574-93-6, Phthalocyanine 7429-91-6D,
 Dysprosium, chelate 7440-04-2D, Osmium, chelate 7440-18-8D,
 Ruthenium,
 chelate 7440-19-9D, Samarium, chelate 7440-27-9D, Terbium, chelate
 7440-53-1D, Europium, chelate 7704-34-9D, Sulfur, compds. contg.
 7723-14-0D, Phosphorus, compds. contg. 7727-37-9D, Nitrogen, compds.
 contg. 7782-44-7D, Oxygen, compds. contg. 11121-48-5, Rose bengal
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (metal chelate contg. compns. for use in chemiluminescent assays)

L32 ANSWER 7 OF 9 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 5
 AN 1994:212038 CAPLUS
 DN 120:212038
 TI Chemiluminescent spiro-acridans, their preparation, and their use in
 analytical methodology
 IN Singh, Sharat; Singh, Rajendra; Meneghine, Frank; Ullman, Edwin
 F.
 PA Syntex (U.S.A.) Inc., USA
 SO PCT Int. Appl., 50 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07D498-10
 ICS C07D491-10; C07D471-10; G01N033-58
 ICI C07D498-10, C07D265-00, C07D221-00; C07D491-10, C07D319-00, C07D221-00;
 C07D471-10, C07D241-00, C07D221-00
 CC 9-5 (Biochemical Methods)
 Section cross-reference(s): 28
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9402486	A1	19940203	WO 93-US6636	19930719
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP	651752	A1	19950510	EP 93-917182	19930719
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT,				
SE	JP 07509245	T2	19951012	JP 93-504547	19930719
	US 5545834	A	19960813	US 95-373678	19950117
	US 5672478	A	19970930	US 96-661846	19960611
PRAI	US 92-916453		19920720		
	WO 93-US6636		19930719		
	US 95-373678		19950117		
OS	MARPAT 120:212038				
GI					



- AB Spiro-acridans I [X, Y = O, S, Se, NH; Z = 1-5 atom chain; 0-8 H may be substituted by W (W = 1-50 non-H atoms); 1-4 of the arom. C may be replaced by N; 0-1 H may be substituted by org. radical] are disclosed,
as
- are anal. methods using them. The anal. methods comprise e.g. (1) combining a medium suspected of contg. the analyte and a chemiluminescent compd., (2) combining a means for chem. activating the chemiluminescent compd.; and (3) detecting the amt. of luminescence generated by the chemiluminescent compd. The amt. of luminescence generated is related to the amt. of analyte in the medium. The chemiluminescent compd. can be chem. activated by hydrogen peroxide. Compns. and kits are also disclosed. Prepn. of selected I is described. Thus, II, prepd. from 10-methylacridinium-9-carboxylate and 1,2,4-trihydroxybenzene, showed enhanced chemiluminescence with horseradish peroxidase.
- ST spiroacridan prepn chemiluminescence analysis; acridan spiro prepn chemiluminescence analysis; peroxidase assay spiroacridan chemiluminescence
- IT Luminescent substances
(chemi-, spiro-acridans, prepn. of, for chemiluminescence assays)
- IT Spectrochemical analysis
(chemiluminescence, spiro-acridan prepn. for)
- IT Ligands
RL: ANST (Analytical study)
(conjugated, with spiro-acridans, for chemiluminescence assays)
- IT Antibodies
Haptens
Receptors
RL: ANST (Analytical study)
(conjugates, with spiro-acridans, for chemiluminescence assays)
- IT Nucleotides, polymers
RL: ANST (Analytical study)
(poly-, conjugates, with spiro-acridans, for chemiluminescence assays)
- IT 37073-18-0P 153953-13-0P 153953-16-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, in chemiluminescent spiro-acridan prepn.)
- IT 153953-10-7P 153953-12-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
- IT 153953-06-1P 153953-07-2P 153953-08-3P 153953-09-4P 154245-04-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for chemiluminescence assay)
- IT 95-54-5, o-Phenylenediamine, reactions 95-55-6, o-Aminophenol
533-73-3, 1,2,4-Trihydroxybenzene 619-05-6 1571-72-8 153953-11-8
153953-15-2
RL: RCT (Reactant)
(reaction of, in chemiluminescent spiro-acridan prepn.)
- IT 7722-84-1, Hydrogen peroxide, reactions
RL: RCT (Reactant)

(spiro-acridan activation by, for chemiluminescence assay)

IT 9003-99-0, Peroxidase
RL: ANST (Analytical study)
(spiro-acridan and, chemiluminescence with)

IT 153953-14-1
RL: ANST (Analytical study)
(spiro-acridan for chemiluminescence assay in relation to
chemiluminescence with)

L32 ANSWER 8 OF 9 MEDLINE
AN 94261598 MEDLINE
DN 94261598
TI Luminescent oxygen channeling immunoassay: measurement of particle
binding
kinetics by chemiluminescence.

AU Ullman E F; Kirakossian H; Singh S; Wu Z P; Irvin B R;
Pease J S; Switchenko A C; Irvine J D; Dafforn A; Skold C N; et al
CS Research Department, Syva Company, Palo Alto, CA 94303..
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF
AMERICA, (1994 Jun 7) 91 (12) 5426-30.
Journal code: PV3. ISSN: 0027-8424.

CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199409

AB A method for monitoring formation of latex particle pairs by
chemiluminescence is described. Molecular oxygen is excited by a
photosensitizer and an antenna dye that are dissolved in one of the
particles. 1 delta gO2 diffuses to the second particle and initiates a
high quantum yield chemiluminescent reaction of an olefin that is
dissolved in it. The efficiency of 1 delta gO2 transfer between particles
is approximately 3.5%. The technique permits real-time measurement of
particle binding kinetics. Second-order rate constants increase with the
number of receptor binding sites on the particles and approach diffusion
control. By using antibody-coated particles, a homogeneous immunoassay
capable of detecting approximately 4 amol of thyroid-stimulating hormone
in 12 min was demonstrated. Single molecules of analyte produce particle
heterodimers that are detected even when no larger aggregates are formed.

CT Antigen-Antibody Reactions
*Chemiluminescence
Digoxin: IM, immunology
*Latex: CH, chemistry
Microspheres
*Oxygen: CH, chemistry
*Thyrotropin: AN, analysis
Thyrotropin: CH, chemistry

RN 20830-75-5 (Digoxin); 7782-44-7 (Oxygen); 9002-71-5 (Thyrotropin)
CN 0 (Latex)

L32 ANSWER 9 OF 9 CAPLUS COPYRIGHT 1999 ACS
AN 1996:316328 CAPLUS
DN 125:1574
TI Luminescent oxygen channeling immunoassay (LOCI) for human thyroid
stimulating hormone

AU Ullman, Edwin F.; Kirakossian, Hrair; Singh, Sharat;
Irvin, Benjamin R.; Irvine, Jennifer D.; Wagner, Daniel B.
CS Research Department, Syva Company, Palo Alto, CA, 94303, USA
SO Biolumin. Chemilumin., Proc. Int. Symp., 8th (1994), 16-19. Editor(s):
Campbell, Andrew Keith; Kricka, Larry J.; Stanley, Philip E. Publisher:
Wiley, Chichester, UK.

CODEN: 62UZAR

DT Conference

LA English

CC 2-1 (Mammalian Hormones)

AB The authors describe an application of a new homogeneous chemiluminescent immunoassay procedure, luminescent oxygen channeling immunoassay (LOCI), and its application to assay of human TSH. The LOCI combines 2 prior concepts that have been used in homogeneous assays: latex agglutination

in which an antibody, for example, can serve to aggregate latex particles that have been coated the corresponding antigen; and enzyme channeling immunoassay in which an immune reaction brings 2 enzymes into proximity near a surface, one of which catalyzes formation of a product that serves as a chromogenic substrate of the other enzyme. The method should permit detection of less than 60,000 TSH moles.

ST luminescent oxygen channeling immunoassay TSH

IT Immunoassay

IT (LOCI; luminescent oxygen channeling immunoassay for human TSH)

9002-71-5, Thyroid-stimulating hormone

RL: ANT (Analyte); ANST (Analytical study)

(luminescent oxygen channeling immunoassay for human TSH)